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***** FIELD MAINTENANCE PRINT SET *****

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 K-PL-7018799-0-DBP UNA BULKHEAD ASSY PARTS LIST
 D-IA-7018798-0-0 UNA CABLE ASSY
 K-PL-7018798-0-DBP UNA CABLE ASSY PARTS LIST

UNIT VARIATIONS

FOR THE FOLLOWING NUMBERS ENCLOSE UA, KPL, CS:
 5415552
 M7792
 M7793

FIELD MAINTENANCE
 PRINT SET
 DEUNA
 DIGITAL EQUIPMENT
 CORPORATION
 MP01378

DRN.	DATE	CHK'D	DATE	PROJ. ENG.	DATE	FIELD SERV.	DATE
R.J. RILEY	1/10/83	R.J. RILEY	1/10/83	M. STECKLAIR	1/10/83	D. DUNCAN	1/10/83
USED ON OPTION/MODEL							
SHEET 1 OF 1							

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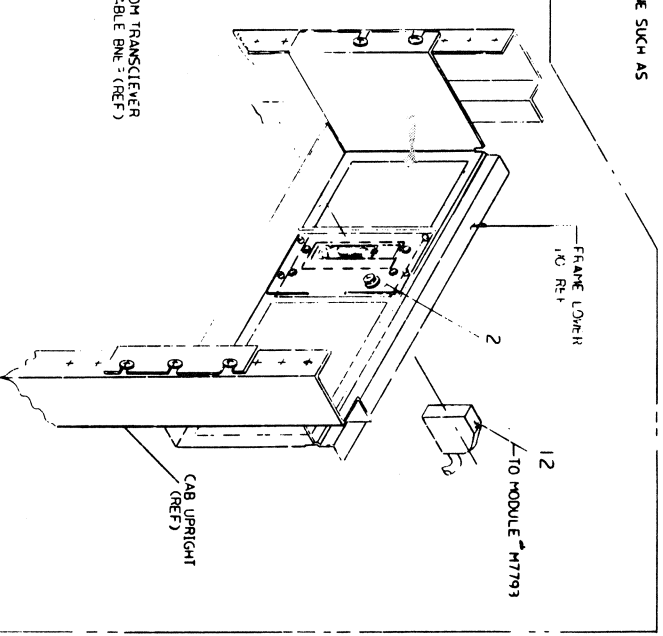
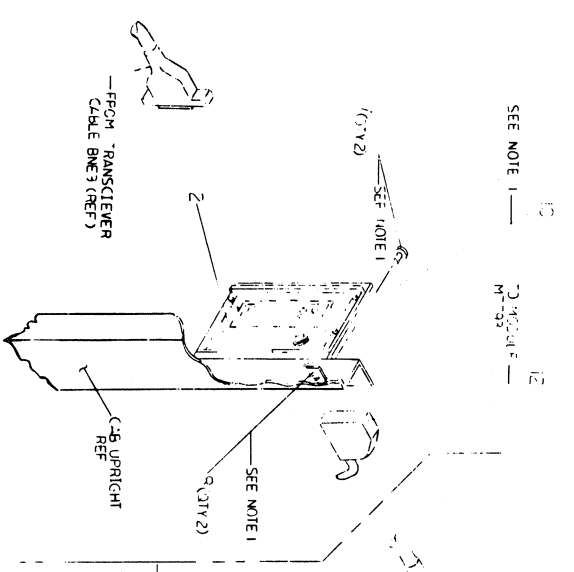
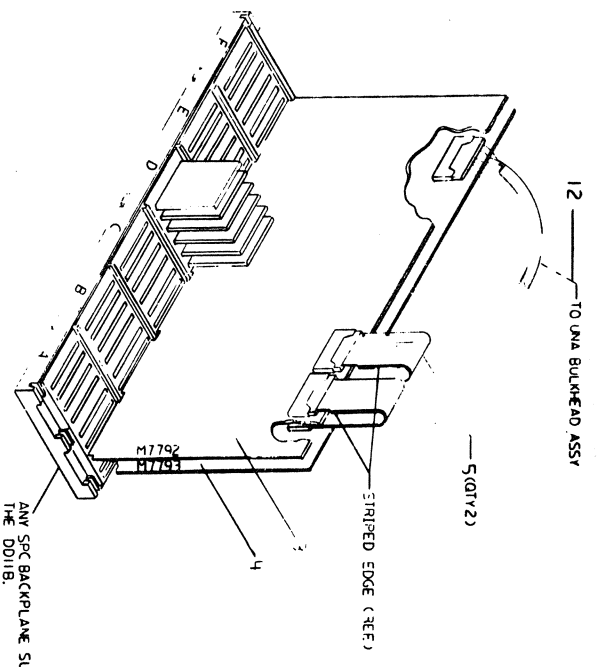
TITLE: d i g i t a l
 TABLE OF CONTENTS (DEUNA)

SIZE	CODE	NUMBER	REV
B	TC	DEUNA-0-1	A
DIST.			

TW

DEUNA

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BULKHEAD ASSY MOUNTING FOR DEC STD 103 NON-COMPLIANT CAB

BULKHEAD ASSY MOUNTING FOR DEC STD 103 COMPLIANT CAB

- NOTES:
1. WHEN MFG OPTION IN DEC STD 103 COMPLIANT CAB, DISCARD ITEMS 7, 8 & 10.
 2. INSTALLATION NOTE: THE NFR GRANT JUMPER (CAI TO CB) MUST BE REMOVED BEFORE M7792 (ITEM 3) IS INSTALLED. THIS JUMPER MUST BE INSTALLED IF THE DEUNA IS REMOVED FROM SYSTEM.
 3. THE BACKPLANE MODULE ORDER IS NOT FIXED.
 4. POWER NOTE:
 - +5VDC @ 1A
 - 15VDC @ 1A

CAUTION: SEE SHEET PARTS LIST
K-R-DEUNA-08-08e (ZSHY75A)

REVISION HISTORY		
DATE	ECO NUMBER	REV

DESCRIPTION		QUANTITY	UNIT	REMARKS

MATERIALS		QUANTITY	UNIT	REMARKS

OPERATION		DESCRIPTION	QUANTITY	UNIT	REMARKS

OPTION DEUNA
LA DEUNA-0-01A

AUTOMATED BY PRLST.4Q(50)

PARTS LIST

SHEET A1 OF A1

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QUANTITY PER VARIATION
1	E-UA-DEUNA-0-0		OPTION DEUNA	REF
2	D-AD-7018799-0-0	7018799-00	UNA BULKHEAD ASSY.	1
3	D-UA-M7792-0-0	M7792-00	UNIBUS TO ETHERNET BUS MICROPROC	1
4	D-UA-M7793-0-0	M7793-00	M7792 TO ETHERNET BUS LINE UNIT,	1
5	SEE NOTE	BC08R-00	I/O CABLE	2
6		9006073-03	SCREW, MACH TRUSS PHIL	2
7		9007786-00	NUT, U-NUT RETAINER	10-
8	A-PA-3700713-0-0	3700713-01	PKG COMM OPTION DEUNA-AA	2
9	D-IA-7427292-0-DBU	7427292-01	FRAME, I/O DOUBLE QUAD	1
10	D-IA-7018798-0-0	7018798-08	UNA BULKHEAD CABLE ASSY.	1
11		9906557-00	BAG, POLY RECLOSE 2 MIL THK CLEA	1

12 NOTE: IF BC08R CABLE IS NOT AVAILABLE BC08S-01 MAY BE USED IN ITS PLACE
 13 NOTE: ITEMS 7 & 8 TO BE PUT INTO ITEM 13 FOR SHIPPING
 14 NOTE: SHIP A COPY OF THE FOLLOWING: E-UA-DEUNA-0-0, EK-DEUNA-UG, B-TC-DEUNA-0-1, WITH THIS OPTION

REVISION HISTORY		BASIC PART NO: DEUNA		DRN:	R. J. RILEY	DATE:	21-OCT-82	D I G I T A L	
ENG:	ECO NUMBER	REV	SECTION A OF A	CHK'D:	R. J. RILEY	DATE:	21-OCT-82	PARTS LIST	
	INITIAL	A	SECTION VARIATION INDEX [A] AA	DES. ENG.:	M. STECKLAIR	DATE:	21-OCT-82	OPTION DEUNA	
				RESP. ENG.:	M. STECKLAIR	DATE:	21-OCT-82	DOCUMENT NUMBER	
				MFG. ENG.:	D. DUNCAN	DATE:	21-OCT-82	SIZE CODE: NUMBER	
				ASSEMBLY NUMBER:	E-UA-DEUNA-0-0	TOP DOCUMENT NUMBER:		PL DEUNA-0-DBP	
								REV A	
								FILE NAME: Z5475A.PLS	
								EDIT 8	

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8

0-0-6668102

6

5

4

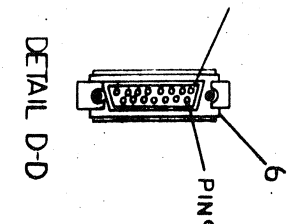
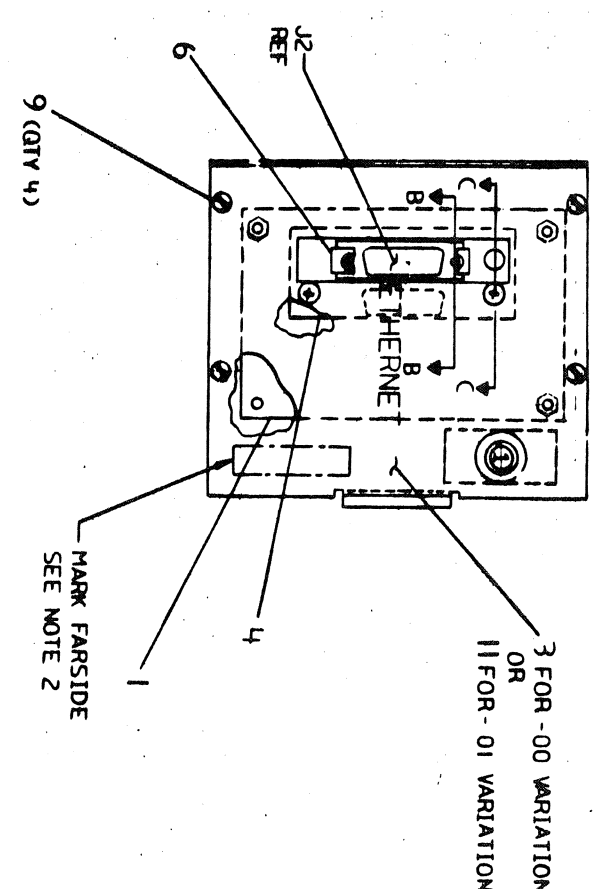
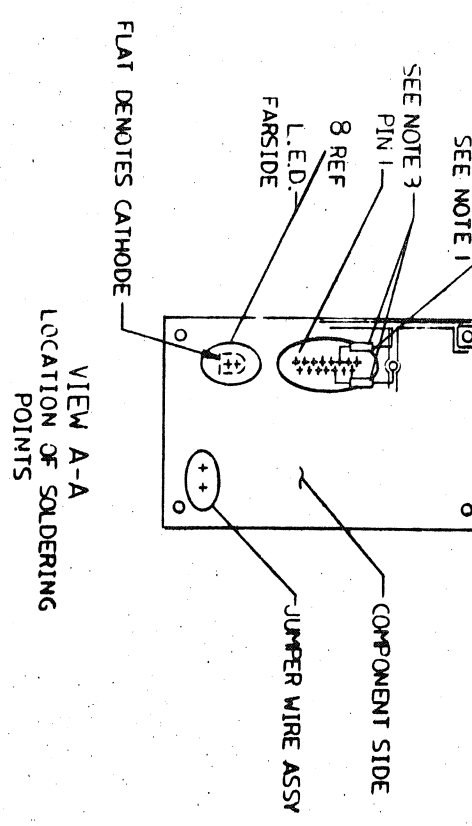
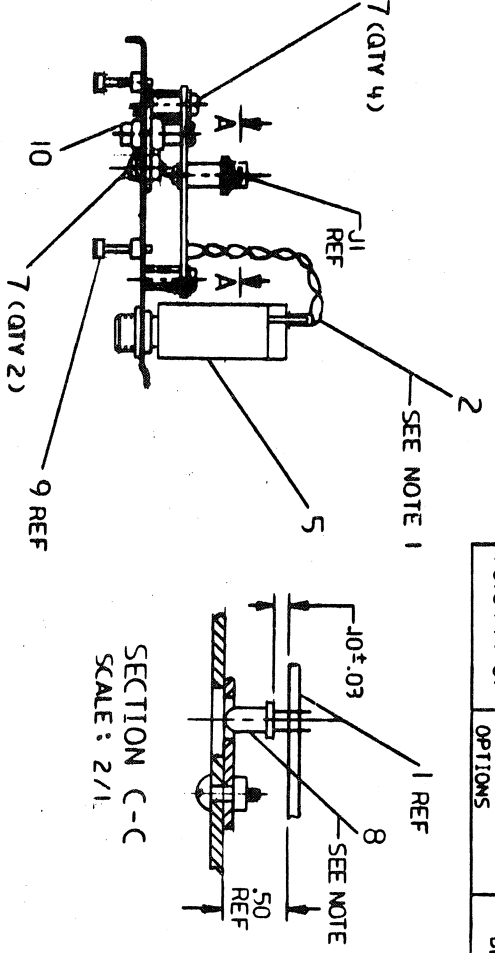
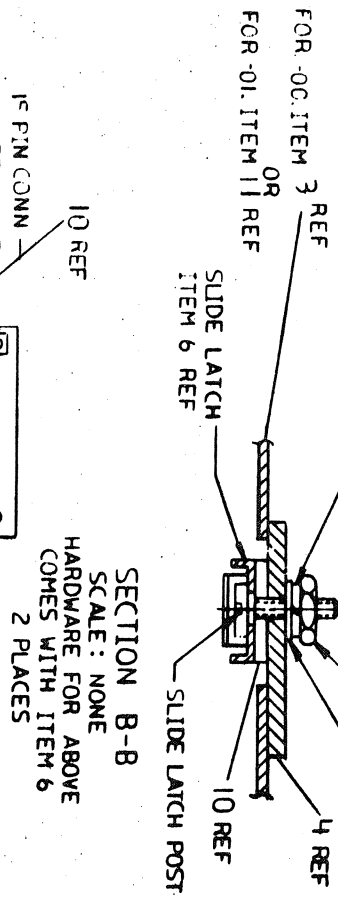
3

2

1

LEGEND		REV
7018799-00	AS SHOWN	B1
7018799-01	USED ON DECSA OPTIONS	B1

- NOTES:
- VIEW A-A IS FOR LOCATION POINTS FOR ITEMS 2, 8 AND 10.
 - MARK DEC PART NO. & REV LEVEL PER DEC STD 178.
 - ADD CAPACITOR (ITEM 12) FROM PIN 6 TO GROUND ETCH AND FROM PIN 13 TO GROUND ETCH AND SOLDER AT EITHER END.



REVISION HISTORY		
DATE	ECD NUMBER	REV
12-21-82	7018799-1W001	B
1-84	7018799-1W002	C

DESCRIPTION	DRAWING NO.	PART NO.	ITEM NO.
UNA BULKHEAD ASSY	7018799-0-0		

DATE	BY	CHKD	DATE	BY	CHKD
3/20/82					

CAUTION: SEE OFF SHEET PARTS LIST
K-PL-7018799-0-DBP (Z448K)

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QUANTITY PER VARIATION
1	D-UA-5415552-0-0	5415552-00	UNA BULKHEAD	1
2	B-IA-7018801-0-0	7018801-00	JUMPER WIRE ASSY.	1
3	D-IA-7426404-09-0	7426404-09	PANEL, QUAD (D-IA)	1
4	C-IA-7427299-0-0	7427299-01	PLATE, CONNECTOR MTG	1
5		1210242-01	CKT BKR 1.0 A 32V 1P THERMAL	1
6		1218489-00	CONN, D SUB 15PIN LATCH KIT	1
7		9009984-00	SCREW, SEMS PAN PHIL	6
8		1110864-00	LED 2MCD810MA	1
9		1219534-01	SCREW, CAPTV SLOT	4
10		1220350-01	CONN, D SUB 15SKT ASSY STR TIN PL	1
11	E-IA-7427750-0-0	7427750-01	PLATE, BULKHEAD	1

REVISION HISTORY BASIC PART NO: 7018799

ENG	ECO NUMBER	REV	SECTION A OF A	DRN:	R. J. RILEY	DATE:	16-NOV-82	D I G I T A L
RG	7018799-TW001	A	SECTION, VARIATION INDEX	CHK'D:	R. J. RILEY	DATE:	16-NOV-82	PARTS LIST
		B	[A] 00,01	DES. ENG.:	R. GRAHAM	DATE:	16-NOV-82	UNA BULKHEAD ASSY
			[B]	RESP. ENG.:	R. GRAHAM	DATE:	16-NOV-82	DOCUMENT NUMBER
			[C]	MFG. ENG.:	D. DUNCAN	DATE:	16-NOV-82	SIZE CODE: NUMBER
			[D]	ASSEMBLY NUMBER:	D-AD-7018799-0-0	TOP DOCUMENT NUMBER:	B-DD-DEUNA-0-0	REV
			[E]					FILE NAME:
			[F]					Z4481B.PLS
								EDIT #
								12

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YCHK - HH A6

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ITEM NO.	DESCRIPTION	FROM CONNECTION POINT	TO CONNECTION POINT	TERMINATION	REMARKS
1	SHIELD	1	P1-1	—	SHIELD DRAIN WIRE
1	28 BLU	2	P1-2	19	COLLISION PRESENCE +
1	28 GRN	3	P1-9	18	COLLISION PRESENCE -
1	28 WHT	4	P1-5	17	RECEIVE +
1	28 GRAY	5	P1-12	16	RECEIVE -
1	28 ORG	6	P1-3	15	TRANSMIT +
1	28 YEL	7	P1-10	14	TRANSMIT -
1	28 RED	9	P1-13	11	POWER
1	24 VIO	10	P1-15	12	FUSE LOW
1	24 BLK	8	P1-6	13	POWER RETURN

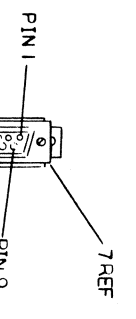
NUMBER	DIM. (PER ECUT)	REV
7018798-06	4 FT. IN. ± 2 IN.	A1
7018798-04	4 FT. 0 IN. ± 2 IN.	A1

- NOTES:
- KEYING PLUG (ITEM 10) IS INSERTED INTO P2-2.
 - REMOVE JACKET & OUTER BRAID (50) TO ALLOW SEPARATION OF WIRES, P2 END.
 - STRIP FOIL SHIELD FROM WIRES, P2 SIDE.
 - CUT "SHIELD WIRE" FLUSH WITH OUTER JACKET, (P2 SIDE ONLY).
 - REMOVE JACKET & OUTER BRAID TO ALLOW SEPARATION OF WIRES, P1 SIDE.
 - STRIP FOIL SHIELD FROM WIRES 100 IN.
 - Merge plastic hood up to P1 connector & attach slide latch assy. ITEM NO. 7 USING SLIDE LATCH ASSY SCREWS PROVIDED (DISCARD WASHERS & NUTS - ITEM NO. 7) TIGHTEN 3 IN - LBS. (DISCARD TWO CONNECTOR MOUNTING SCREWS HOOD ASSY) ITEM NO. 5.
 - TIGHTEN STRAIN RELIEF SET SCREW ON PLASTIC HOOD. 3 IN - LBS.
 - HAND CRIMP TOOLS: AMP P/N 90302-1 SEREG ELECTRIC P/N HT-95
 - ADD ITEM NO. 12 FLUSH WITH OUTER JACKET.

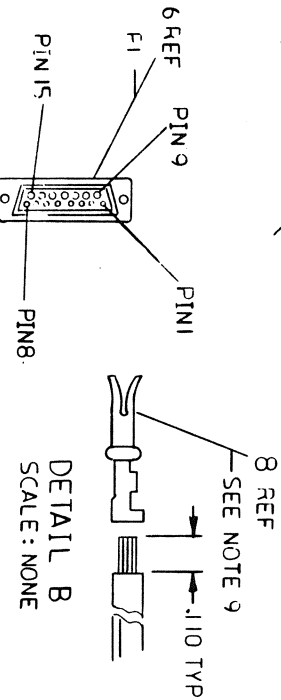
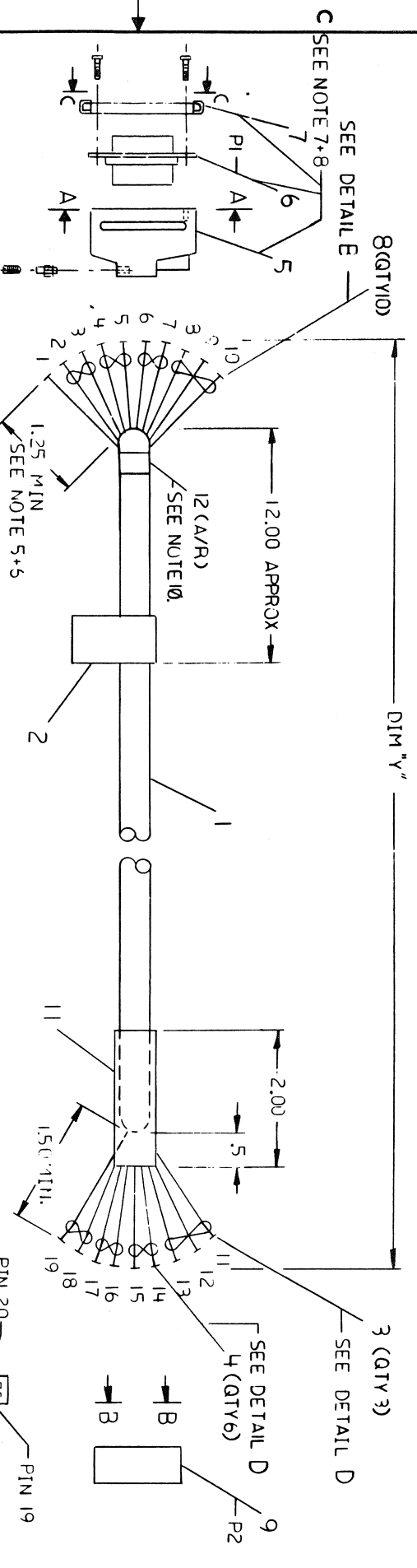
WIRE TABLE

ITEM NO.	DESCRIPTION	FROM CONNECTION POINT	TO CONNECTION POINT	TERMINATION	REMARKS
1	SHIELD	1	P1-1	—	SHIELD DRAIN WIRE
1	28 BLU	2	P1-2	19	COLLISION PRESENCE +
1	28 GRN	3	P1-9	18	COLLISION PRESENCE -
1	28 WHT	4	P1-5	17	RECEIVE +
1	28 GRAY	5	P1-12	16	RECEIVE -
1	28 ORG	6	P1-3	15	TRANSMIT +
1	28 YEL	7	P1-10	14	TRANSMIT -
1	28 RED	9	P1-13	11	POWER
1	24 VIO	10	P1-15	12	FUSE LOW
1	24 BLK	8	P1-6	13	POWER RETURN

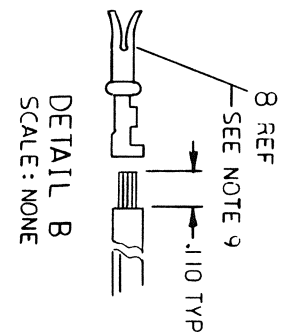
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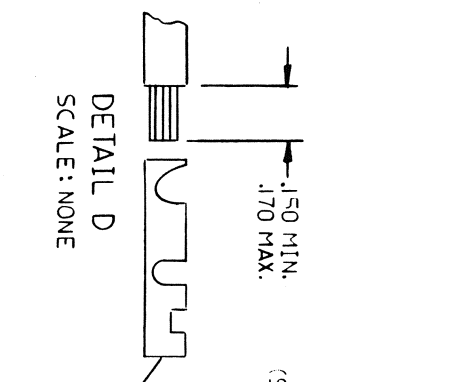
VIEW C-C



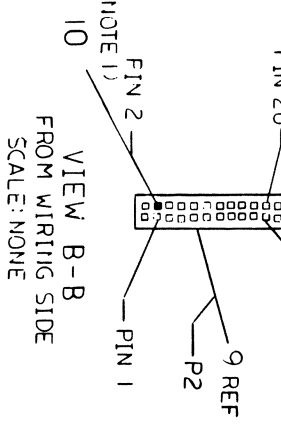
VIEW A-A
FROM WIRING SIDE
SCALE: NONE



DETAIL B
SCALE: NONE



DETAIL D
SCALE: NONE



VIEW B-B
FROM WIRING SIDE
SCALE: NONE

CAUTION: SEE OFF SHEET PARTS LIST
K-PL-7018798-0-DBP (Z-4+7DA)

REVISION HISTORY	
DATE	ECO NUMBER
7/7	7018798-TW001
	R. GRAHAM

DESCRIPTION: JUNA BULKHEAD CABLE ASSY

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND THE FOLLOWING TOLERANCES APPLY (PER DEC STD 114)

ANGLES	TOLERANCES
X ± .1	XXX ± .05
XX ± .05	

THIRD ANGLE PROJECTION & VARIATION

DO NOT SCALE DRAWING
REMOVE BURRS AND BREAK SHARP CORNERS
MATERIAL: SEE PARTS LIST
FINISH: SEE PARTS LIST

DATE: 1/4 19/82

SCALE: 1" = 1" (DIMENSIONS)

SIZE CODE: DIA 7018798-0-0

REVISION: B

DOCUMENT NUMBER: 7018798-0-0

AUTOMATED BY PRTLIST.3P(44)

PARTS LIST

SHEET 01 OF 01

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QUANTITY PER VARIATION
1	SEE NOTE	1700347-01	CABLE,RND 08COND 28AWG TWP	48 96
2	SEE NOTE	3616073-00	LABEL, ID W/COPY VERTICAL	1 1
3	SEE NOTE	1210089-06	CONN,P+S 01SKT 28-22AWG .0500D	3 3
4	SEE NOTE	1210089-03	CONN,P+S 01SKT 32-28AWG .0500D	6 6
5	SEE NOTE	1211245-02	CONN,D SUB 15POS HOOD STRAIGHT P	1 1
6	SEE NOTE	1210493-58	CONN,D SUB 15SKT HSG STR	1 1
7	SEE NOTE	1218489-00	CONN,D SUB 15PIN LATCH KIT	1 1
8	SEE NOTE	1210493-45	CONN,D SUB SKT CRIMP 28-24AWG	10 10
9	SEE NOTE	1210918-25	CONN,P+S 24POS(2X12),100CC HSG	1 1
10	SEE NOTE	9009140-00	CONN,P+S POLARIZING PLUG FOR-	1 1
11	SEE NOTE	9107252-00	TUBING, SHRINK .375ID EXP	2 2

12 NOTE: ITEMS 1 & 11 ARE IN INCHES

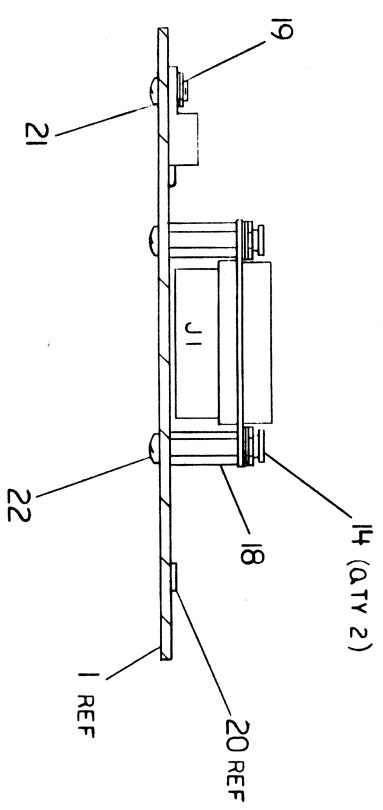
REVISION HISTORY

ENG	ECO NUMBER	REV	SECTION	DRN	R. J. RILEY	DATE	16-NOV-82	D	I	G	I	T	A	L
	INITIAL	A	SECTION A OF A	CHK'D:	R. J. RILEY	DATE:	16-NOV-82	TITLE PARTS LIST						
			SECTION VARIATION INDEX	DES. ENG.:	R. GRAHAM	DATE:	16-NOV-82	UNA BULKHEAD CABLE ASSY						
			[A] 04,08	RESP. ENG.:	R. GRAHAM	DATE:	16-NOV-82	DOCUMENT NUMBER						
			[B]	MFG. ENG.:	D. DUNCAN	DATE:	16-NOV-82	SIZE: CODE NUMBER REV						
			[C]	ASSEMBLY NUMBER:	D-IA-7018798-0-0	TOP DOCUMENT NUMBER:	B-DD-DEUNA-0-0	FILE NAME: Z4470A.PLS EDIT 5						
			[D]											
			[E]											
			[F]											

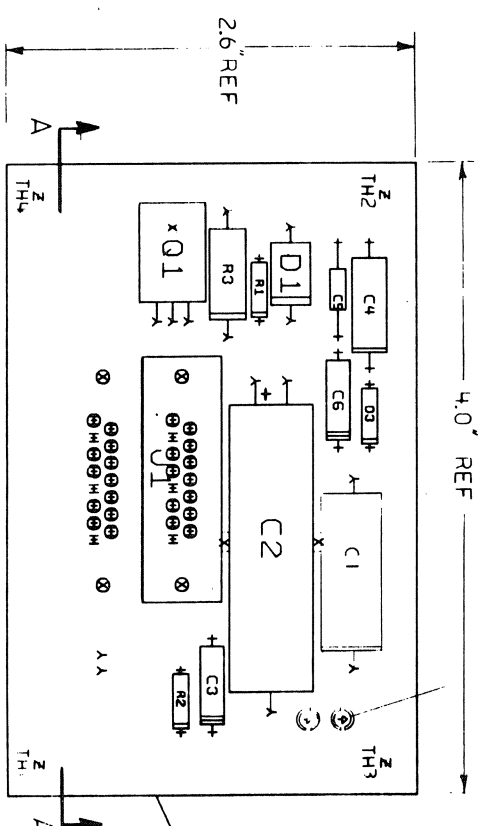
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8 0-0-25552-0-0 7 6 5 4 3 2 1



VIEW A-A
SCALE 2/1



20 2 PLACES

NOTES:

1. BD UL REQUIREMENT IS 94V0

STEP #	Y AXIS	STEP	TIMES
REPEAT	X AXIS	STEP	TIMES

CHK	CHANGE NO	REV

ETCH REV.	A

SIGNATURES		DATE
DRN. <i>[Signature]</i>		
CHK. D. <i>[Signature]</i>		
MECH. ENG. <i>[Signature]</i>		
PROD. ENG. <i>[Signature]</i>		
SCALE 2/1		
SHT. 1 OF 1		
NEXT HIGHER ASSY. 8 DD 5415552-0		

TITLE	NUMBER	REV
digital	5415552-0-01	A
CURRENT LIMITER		

8 7 6 5 4 3 2 1 MO# 10548A

5415552-0-0

COMPONENT SIDE VIEW

AUTOMATED BY PRLIST.3P(44)

PARTS LIST

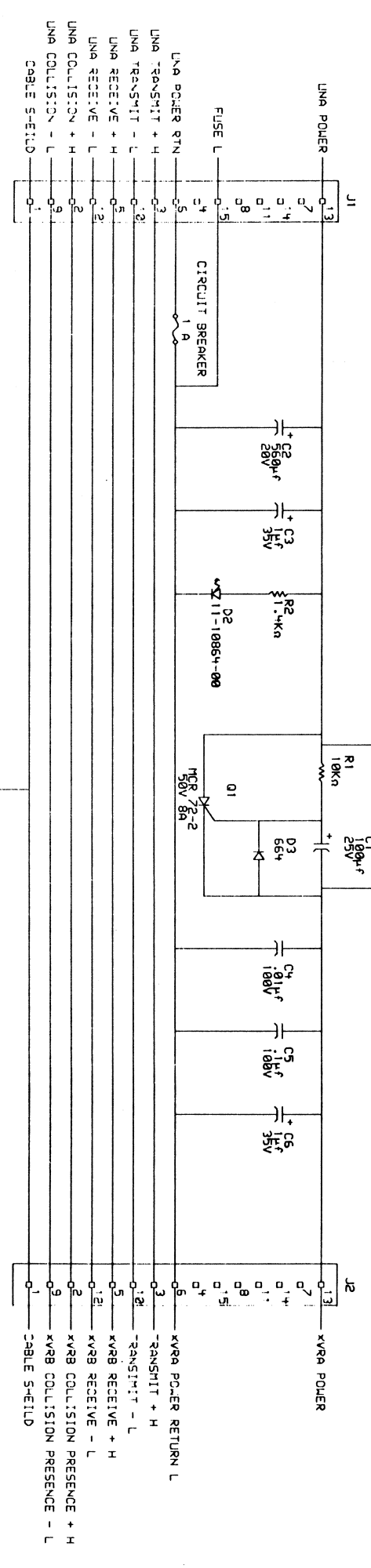
SHEET 21 OF 41

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION	REFERENCE DESIGNATOR
1	D-MD-5015551-0-0	5015551-00	DRILL AND ETCH	1	
2		1001776-00	1 MFD 35V 10% S. TANT	2	C3, C6
3		1002781-00	100 MFD 25V +75-10% AL EL	1	C1
4		1005784-00	.01 MFD 100V 200V 10% MYL	1	C4
5		1013466-22	.1 MFD 50V +80-20% Z5U CER	1	C5
6		1018584-01	560 MFD 20V+100-20% AL EL	1	C2
7		1100114-00	D 664 GS\75PCB PIV= 25V SP	1	D3
8		1110864-00	LED 2MCD1010MA	1	D2
9		1114602-00	UE51302 PIV=100V I= 4A	1	D1
10		1303312-00	10.0 K .25 W 1.0 * RN55D-F10	1	R1
11		1313589-00	1.40 K .25 W 1.0 * RN55D-F10	1	R2
12		1319255-10	18.0 1.0 W 5.0 * M OXIDE	1	R3
13	BLANK		*** THIS ITEM IS NOT USED ***		
14		1218672-00	CONN, D SUB LOCKING POST ASSY.	1	
15		1220360-01	CONN, D SUB 15SKT ASSY STRAIGHT P	1	
16		1520353-01	SCR# 50V I=8A	1	J1
17	BLANK		*** THIS ITEM IS NOT USED ***		
18		9000033-02	SPACER, THREADED HEX ALUM 4-4	2	
19		9006557-00	NUT, HEX EXT T00TH LCKWSHR 4-40	1	
20		9006735-00	EYELET, FUNNEL 0.0590DX0.187	1	
21		9008301-01	SCREW, MACH PAN PHIL 4-	2	
22		9009643-02	SCREW, SEMS PAN PHIL 4-	1	
23	BLANK		*** THIS ITEM IS NOT USED ***		

REVISION HISTORY BASIC PART NO: 5415552

ENG	ECO NUMBER	REV	SECTION A OF A	SECTION VARIATION INDEX	DRN	P. GROSSE	DATE: 16-JUN-82	TITLE	D	I	G	I	T	A	L
	INITIAL	A		(A) 00	CHK'D:	F. GARFALO	DATE: 16-JUN-82	PARTS LIST							
				(B)	DES. ENG.:	R. GRAHAM	DATE: 16-JUN-82	SURGE CURRENT LIMITER							
				(C)	RESP. ENG.:	R. GRAHAM	DATE: 15-JUN-82	DOCUMENT NUMBER							
				(D)	MF. G. ENG.:	DANA DUNCAN	DATE: 02-DEC-82	SIZE CODE: NUMBER							
				(E)	ASSEMBLY NUMBER:	D-VA-5415552-0-0	TOP DOCUMENT NUMBER:	PL	5415552-0-DBP						
				(F)	FILE NAME:	Z3925A.PLS	FILE NAME:								
				(G)	EDITOR:		EDITOR:								

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REV.	CHG. NO.	REV.

DATE	ENG.	DATE	TITLE
07-28-82	DEUNA	07-28-82	UNA BULKHEAD SURGE CURRENT LIMITER

5415552-0-0

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8 0-0-267LM VU D 71 5 4 3 2 1



NOTES:
1. E14 & E15 ARE SPARE LOCATIONS.
2. UL RATING IS LPMR.

STEP C	↑ Y AXIS	STEP D, TIMES
REPEAT	→ X AXIS	STEP D, TIMES

CHK	CHANGE NO.	REV
	M7792-TW5	C
	T. WALSH 26MAY83	
	K. SARGENT	
	M7792-TW6	D
	D. GARDNER 103183	
	K. SARGENT	

ETCH REV.	C-PI
-----------	------

SIGNATURES		DATE
DRN. <i>[Signature]</i>	<i>[Signature]</i>	2-17-83
CHK. D. <i>[Signature]</i>	<i>[Signature]</i>	2-17-83
MECH. ENG. <i>[Signature]</i>	<i>[Signature]</i>	
PROD. ENG. <i>[Signature]</i>	<i>[Signature]</i>	
SCALE 2/1		
SHT. 1 OF 1		
NEXT HIGHER ASSY. 3-DD-M7792-0		
TITLE	digital	
PROJ. CODE	CEUNA PORT	
MODULE	MODULE	
SIZE CODE		
NUMBER	M7792-0-0	
REV		

1 MO#173170

SIZE CODE NUMBER
DUA M7792-0-0

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION	REFERENCE DESIGNATOR
1	77	D-MD-5015542-0-0	DRILL & ETCH CUT	1	C2
2	1	5015542-00	.01 MFD 50V +80-20% Z5U CER	1	C4, C5, C6, C7, C8, C9
3	3	1001610-00	.08 MFD 25V +75-10% AL EL CER	6	C10, C11, C12, C13, C14, C15, C16, C17, C18, C19, C20, C21, C22, C23, C24, C25, C26, C27, C28, C29, C30, C31, C32, C33, C34, C35, C36, C37, C38, C39, C40, C41, C42, C43, C44, C45, C46, C47, C48, C49, C50, C51, C52, C53, C54, C55
4	4	1012784-00	.047 MFD 50V +80-20% CER	46	C3
5	2	1010031-07	1 MFD 50V 10% M.POLYCARB	1	D1, D2, D3, D4, D5, D6, D7
6	5	1112689-00	LED 8MCD@16MA VF=5V	7	J1, J2
7	65	1209941-02	PCB, HEADER 40PIN(2X20), 1.00CC 90D	2	E40, E62
8	19	1211164-06	SW, DIP 10POS/1PST 5VDC100MA F	2	XE42, XE43
9	79	BLANK	*** THIS ITEM IS NOT USED ***	-	
10	80	1212385-03	SKT, IC 28PIN DIP GOLD	2	E32, E63
11	15	1216988-02	HANDLE, MODULE, HEX TWO ELECTORS	1	R6, R9, R10, R13, R19, R21, R22
12	69	1300005-01	R NETWORK 13-1K 5.0% 14PIN	2	R91
13	15	1300229-00	100.0 .25 W 5.0% CF	1	R5
14	76	1300247-00	120.0 .25 W 5.0% CF	1	R1, R3, R4, R11, R14, R17, R18, R20, R70
15	68	1300295-00	330.0 .25 W 5.0% CF	1	R24
16	66	1300365-00	1.0 K .25 W 5.0% CF	9	R90
17	74	1300479-00	10.0 K .25 W 5.0% CF	1	R16
18	75	1301322-00	180.0 .25 W 5.0% CF	1	R15
19	72	1301425-00	300.0 .25 W 5.0% CF	1	R2
20	71	1301890-00	560.0 .25 W 5.0% CF	1	R23
21	67	1302388-00	2.0 K .25 W 5.0% RNS5D-CF	1	R7, R8
22	73	1303114-00	1.0 K .25 W 1.0% RNS5D-F10	1	E159
23	70	1317183-05	487.0 K .25 W 1.0% RNS5D-F10	2	E163
24	60	1613120-00	DELAY= 200NS, 10TAPS	1	
25	63	1811660-36	OSCILLATOR, XTAL 7.500 MHZ	1	

REVISION HISTORY		BASIC PART NO: M7792	
ENG	ECO NUMBER	REV	SECTION A OF A
	INITIAL	A	SECTION VARIATION INDEX
TE	M7792-TW002	B	[A] 00
TE	M7792-TW003	C	[B]
TE	M7792-TW004	D	[C]
RS	M7792-TW005	E	[D]
KS	M7792-TW006	F	[E]
		G	[F]
		H	[G]
		I	[H]
		J	[I]
		K	[J]
		L	[K]
		M	[L]
		N	[M]

DRN:	D. SIREEN	DATE:	10-SEP-82
CHK'D:	COSTA L.	DATE:	10-SEP-82
DES. ENG:	M. STECKLAIR	DATE:	10-SEP-82
RESP. ENG.:	M. STECKLAIR	DATE:	10-SEP-82
MFG. ENG.:	DANA DUNCAN	DATE:	02-DEC-82
ASSEMBLY NUMBER:	D-UA-M7792-0-0	TOP DOCUMENT NUMBER:	B-DD-M7792-0-0

TITLE	D I G I T A L
TITLE	PARTS LIST
TITLE	DEUNA PORT MODULE
DOCUMENT NUMBER	
SIZE CODE	PL
DOCUMENT NUMBER	M7792-0-DBP
FILE NAME	Z3924F.PLS
REV	F
EDIT #	20

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AUTOMATED BY PRLST.4Q(50)

PARTS LIST

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION	REFERENCE DESIGNATOR
26	61	1909705-00	8881 NAND GATE-QUAD 2IN 0	1	E160
27	45	1909712-00	8242 COMPARATOR-4BIT N,	1	E104
28	56	1910532-00	74500 NAND GATE-QUAD 2IN	1	E149
29	46	1915019-00	74538 NAND BUFFER-QUAD 2IN	1	E105
30	42	1910534-00	74504 INVERTER GATE-HEX 1I	1	E100
31	36	1910544-00	74574 FF-D DUAL, EDGE TRIGG	7	E92, E124, E136, E137, E139, E148,
32	62	1910878-00	7427 NOR GATE-TRIPLE 3IN	1	CONT E166
33	31	1910951-00	9602 ONE SHOT-DUAL	1	E161
34	17	1911573-00	745280 PARITY GEN/CHKR, 9BIT	1	E79
35	50	1911579-00	8641 TRANSCIEVER, BUS, QUA	2	E36, E47
36	29	1911676-00	745139 DECODER-DUAL TWO-TNP	1	E118, E120
37	64	1911944-00	555CN TIMER, FUNCT. BLOCK	1	E74
38	55	1912389-00	74508 AND GATE-QUAD 2IN, P0	1	E167
39	13	1912647-00	LS257 MUX 1 OF 2 (QUAD)	4	E141
40	10	1912697-00	LS174 FF-D HEX W/CLEAR	3	E23, E45, E54, E65
41	33	1912799-00	LS00 NAND-GATE-QUAD 2IN, P	4	E5, E143, E144
42	34	1912801-00	LS02 NOR-GATE-QUAD 2IN	3	E85, E88, E115, E169
43	35	1912803-00	LS04 INVERTER GATE, HEX	3	E89, E106, E164
44	26	1912805-00	LS08 AND GATE-QUAD 2IN, P0	6	E90, E107, E134
45	28	1912807-00	LS10 NAND GATE-TRIPLE 3IN	2	E71, E113, E119, E121, E132, E135
46	48	1912810-00	LS20 NAND GATE-DUAL 4IN	2	E73, E108
47	44	1912811-00	LS21 AND GATE-DUAL 4IN, P0	1	E114, E122
48	49	1912813-00	LS27 NOR GATE-TRIPLE 3IN	1	E103
49	30	1912816-00	LS32 OR GATE-QUAD 2IN, POS	1	E116
50	20	1912824-00	LS74 FF-D DUAL, EDGE TRIGG	4	E78, E91, E109, E150
51	25	1912842-00	LS138 DECODER-THREE INPUT,	7	E41, E99, E128, E138, E146, E147, E168
52	53	1912845-00	LS153 MUX 1 OF 4 (DUAL)	5	E58, E75, E76, E77, E140
53	38	1912848-00	LS158 MUX 1 OF 2 (QUAD)	1	E129, E130, E153, E155, E157, E158,
54	57	1912851-00	LS169 COUNTER, SYNCH. UP/DD	1	E171
55	12	1912854-00	LS193 COUNTER, SYNCHR, 4BIT,	14	E95
56	16	1912863-00	LS273 FF-D OCTAL W/CLEAR	2	E151
57	58	1912864-00	LS279 LATCH, QUAD-S-R	1	E12, E13, E26, E27, E35, E46, E55, E57,
58	52	1913462-00	745240 OCTAL BUFFER, INVERTI	1	E59, E68, E69, E70, E127, E142
59	40	1913671-00	745374 FF-D, OCTAL, TRI STATE	1	E34, E83
60	24	1913888-00	745374 EQUALS CHECKER 8BIT	2	E152
61	18	1914085-00	102A NOR GATE-DUAL, POS	1	E126
62	6	1914214-00	745260 FF-D OCTAL EDGE TRIG	1	E97, E123
63	54	1914438-00	LS374 UNIBUS INTERRUPT-BIP	8	E51
64	59	1914451-00	013 COUNTER, BINARY, 4BIT	2	E37
65	32	1914768-00	67401J MEMORY FIFO, SERIAL	6	E1, E6, E16, E17, E20, E22, E24, E29
66	14	1914845-00	2918 FF-D QUAD TRI-STATE	2	E131, E145
67	9	1915193-00	LS244 DRIVER, LINE, OCTAL, T	1	E154, E156, E162, E165, E170, E172
68	8	1915219-00	LS373 FF-D OCTAL-TRANSPARE	2	E84, E87

DEUNA PORT MODULE

SECTION A OF A

SIZE: CODE: DOCUMENT NUMBER: REV

K PL M7792-0-DBP F

AUTOMATED BY PRLST.4Q(50)

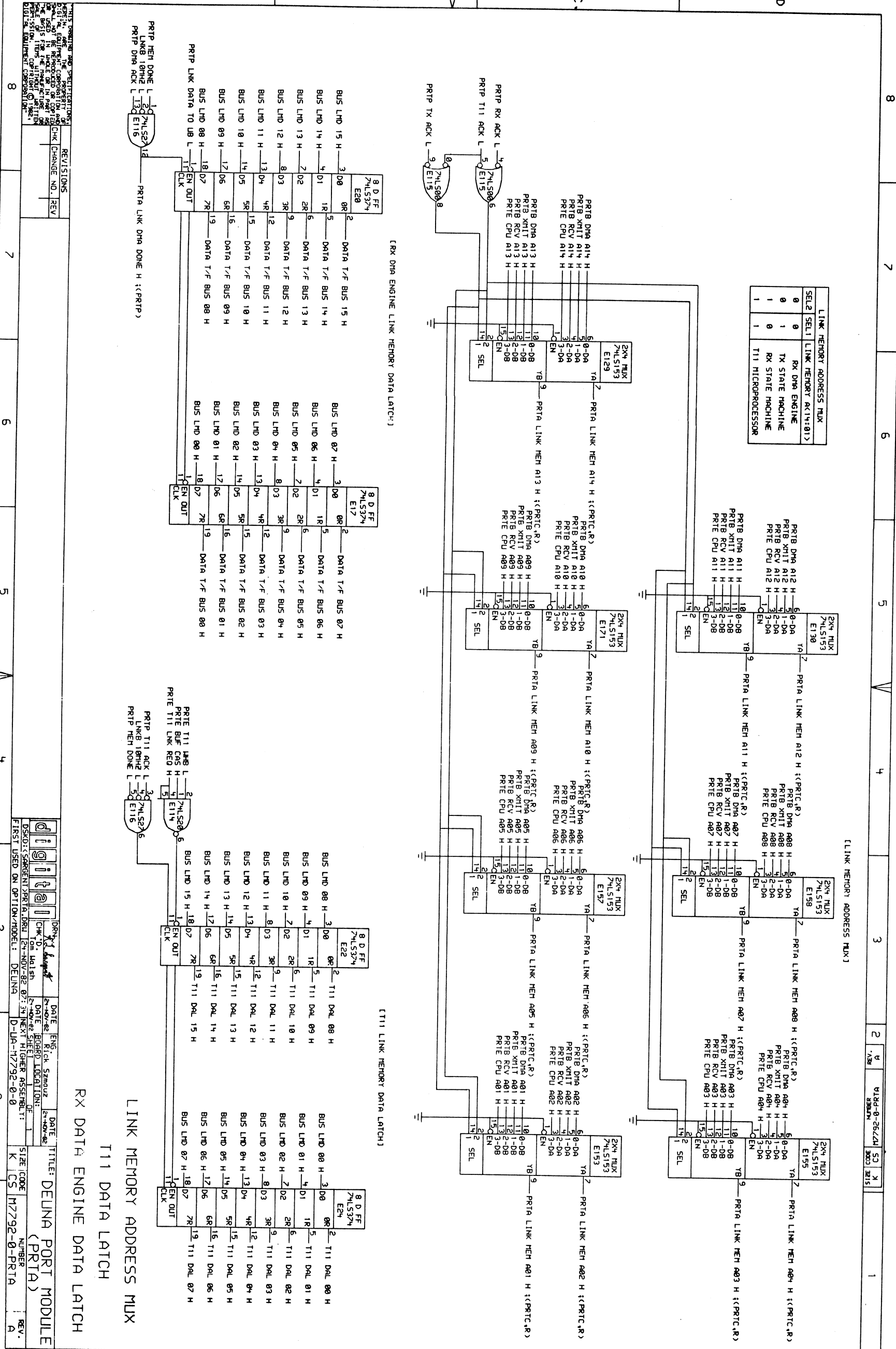
P A R T S L I S T

SHEET A3 OF A3

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION	REFERENCE DESIGNATOR
69	37	1915932-00	DC	1	E93
70	23	1919015-00	LS125 BUFFER, QUAD BUS	4	E48, E60, E102, E117
71	39	2117311-01	T-11 BUS TRANSCEIVER, 20PI	1	E96
72	27	2118054-03	16K MOS RAM 55NS 2	2	E72, E86
73	22	2119250-00	4KX4 STATIC RAM 55NS	4	E44, E56, E82, E110
74	11	23365A1-00	A1-07	1	E11
75	11	23366A1-00	A1-07	1	E133
76	51	23367A1-00	A1-07	1	E53
77	21	23992A9-00	A9-01	1	E98
78	7	23090C6-00	C6-01	1	E125
79	43	23229E4-00	E4-06	1	E43
80	47	23228E4-00	E4-06	1	E42
81	81	9009000-00	EYELET, ROLLED	10	
82	82	23119J5-00	J5-01	2	E2, E39
83	83	23118J5-00	J5-01	1	E50
84	84	23070K3-00	K3-01	1	E101
85	85	23037K5-00	K5-01	1	E112
86	86	23038K5-00	K5-01	1	E111
87	87	1215006-02	SKT, IC	1	XE11
88	88	1311422-00	16PIN DIP TIN	4	
89	89	1305125-00	.25 W 1.0 * RN55D-F10	2	R92, R94, R95, R97
90	90	9107256-11	TUBING, TEFLON .027ID	A/R	R93, R96
91	91	9105740-55	WIRE(WRAP) 30AWG KYNAR UL14	A/R	

D	I	G	I	T	A	L	TITLE	SECTION A OF A	SIZE	CODE	DOCUMENT NUMBER	REV
							DEUNA PORT MODULE		K	PL	M7792-0-DBP	F

CHK: HH:4



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REVOLUTIONS
CHK CHANGE NO. REV

7

4

3

2

1

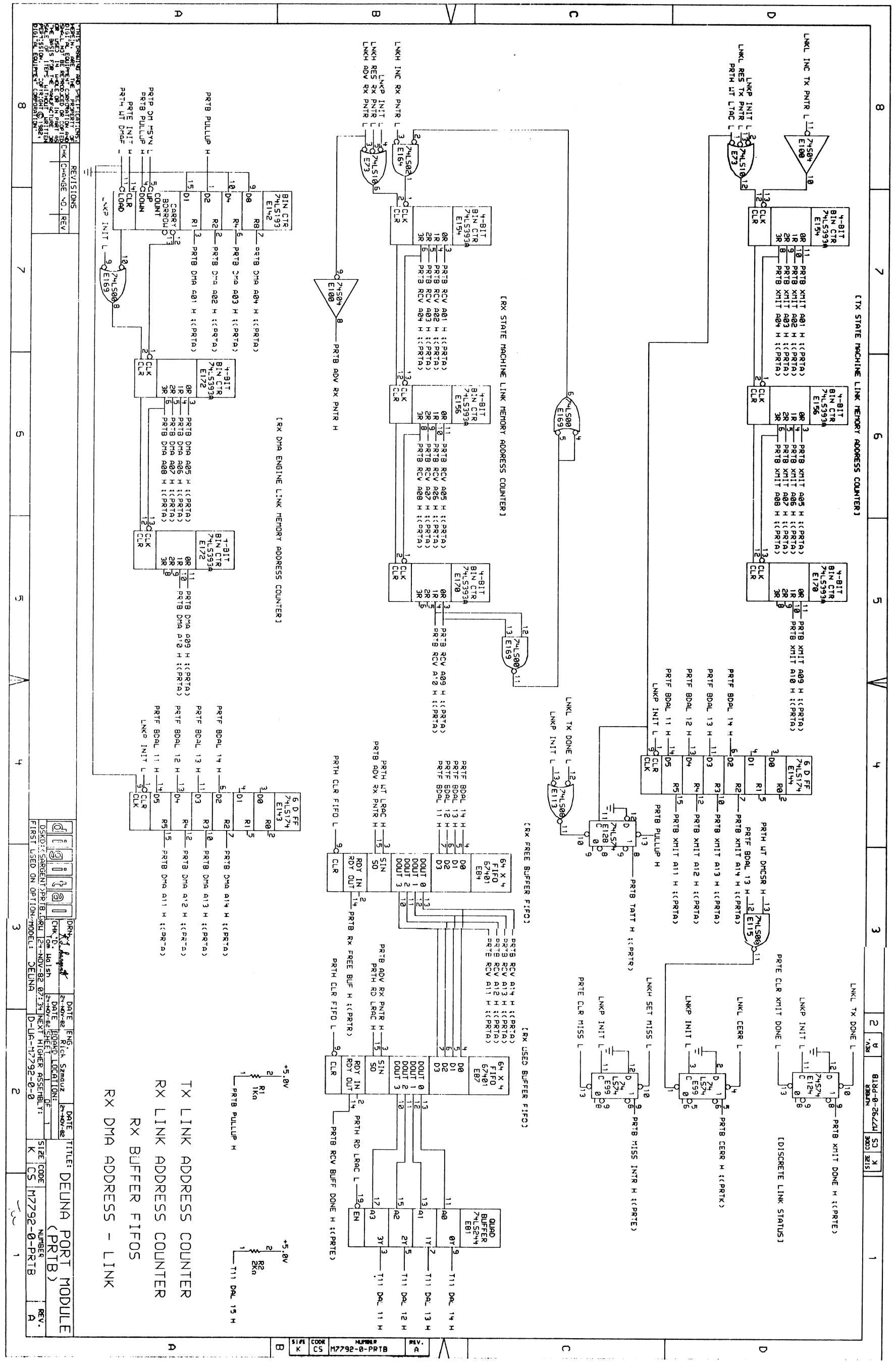
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RX DATA ENGINE DATA LATCH
T11 DATA LATCH
LINK MEMORY ADDRESS MUX

DRG: J. S. ... DATE: ...
TITLE: DEUNA PORT MODULE (PRTA)
NUMBER: ...
REV: A

DISK: ...
FIRST USED ON: ...

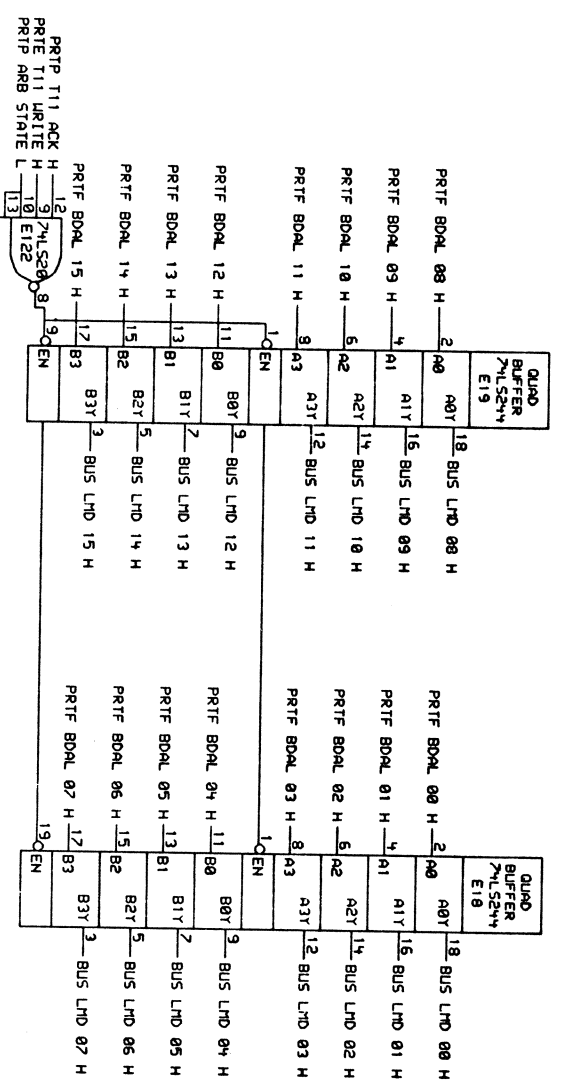
REV. C
NUMBER
M7792-0-PRTA



REV.	NO.	DATE	BY	CHK'D BY	DATE	REV.	NO.	DATE	BY	CHK'D BY	DATE
A	1	01-NOV-92	Richard Semuza		01-NOV-92	A	1	01-NOV-92	Richard Semuza		01-NOV-92
	2	01-NOV-92	Richard Semuza		01-NOV-92		2	01-NOV-92	Richard Semuza		01-NOV-92
	3	01-NOV-92	Richard Semuza		01-NOV-92		3	01-NOV-92	Richard Semuza		01-NOV-92
	4	01-NOV-92	Richard Semuza		01-NOV-92		4	01-NOV-92	Richard Semuza		01-NOV-92
	5	01-NOV-92	Richard Semuza		01-NOV-92		5	01-NOV-92	Richard Semuza		01-NOV-92
	6	01-NOV-92	Richard Semuza		01-NOV-92		6	01-NOV-92	Richard Semuza		01-NOV-92
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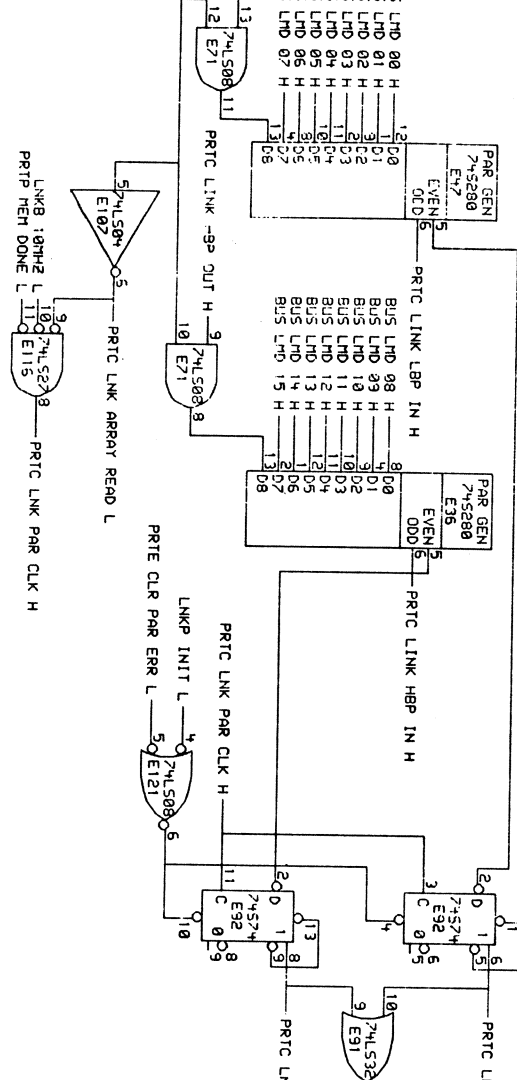
REV.	NO.	DATE	BY	CHK'D BY	DATE	REV.	NO.	DATE	BY	CHK'D BY	DATE
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	8	01-NOV-92	Richard Semuza		01-NOV-92		8	01-NOV-92	Richard Semuza		01-NOV-92

TX LINK ADDRESS COUNTER
 RX LINK ADDRESS COUNTER
 RX BUFFER FIFOS
 RX DMA ADDRESS - LINK



LINK MEMORY WRITE DATA BUFFER

QUAD BUFFER 74LS244 E19	18	BUS LMD 08 H
	15	BUS LMD 09 H
	14	BUS LMD 10 H
	12	BUS LMD 11 H
	9	BUS LMD 12 H
	7	BUS LMD 13 H
	5	BUS LMD 14 H
	3	BUS LMD 15 H
QUAD BUFFER 74LS244 E18	18	BUS LMD 08 H
	16	BUS LMD 01 H
	14	BUS LMD 02 H
	12	BUS LMD 03 H
	9	BUS LMD 04 H
	7	BUS LMD 05 H
	5	BUS LMD 06 H
	3	BUS LMD 07 H



LINK MEMORY PARITY GENERATOR/CHECKER

PAR GEN 74LS244 E17	18	BUS LMD 08 H
	15	BUS LMD 09 H
	14	BUS LMD 10 H
	12	BUS LMD 11 H
	9	BUS LMD 12 H
	7	BUS LMD 13 H
	5	BUS LMD 14 H
	3	BUS LMD 15 H
PAR GEN 74LS244 E16	18	BUS LMD 08 H
	16	BUS LMD 01 H
	14	BUS LMD 02 H
	12	BUS LMD 03 H
	9	BUS LMD 04 H
	7	BUS LMD 05 H
	5	BUS LMD 06 H
	3	BUS LMD 07 H

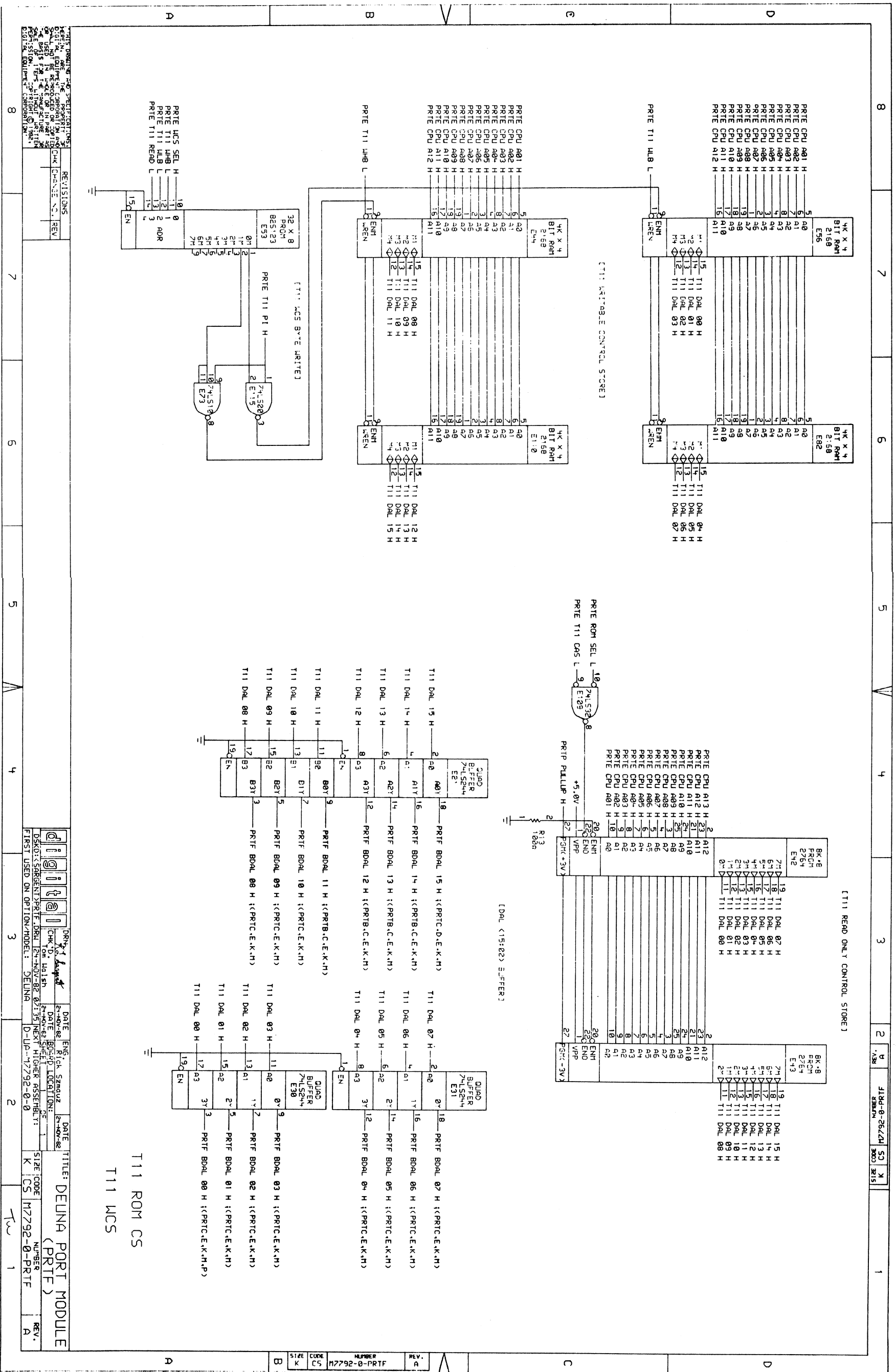
LINK MEMORY PARITY
T11 LINK MEMORY WRITE
DATA BUFFER

REVISIONS

REV	NO.	CHK	CHANGE	NO.	REV

DATE: 12-11-82
BY: RICH SAMOUEZ
TITLE: DEUNA PORT MODULE (PRIC)

SIZE: CS
NUMBER: 17792-0-PRIC



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 COMPANY.

REV.	DESCRIPTION	DATE
1	INITIAL	11-17-82
2	REVISED	11-17-82
3	REVISED	11-17-82
4	REVISED	11-17-82
5	REVISED	11-17-82
6	REVISED	11-17-82
7	REVISED	11-17-82
8	REVISED	11-17-82

REV.	DESCRIPTION	DATE
1	INITIAL	11-17-82
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4	REVISED	11-17-82
5	REVISED	11-17-82
6	REVISED	11-17-82
7	REVISED	11-17-82
8	REVISED	11-17-82

REV.	DESCRIPTION	DATE
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6	REVISED	11-17-82
7	REVISED	11-17-82
8	REVISED	11-17-82

REV.	DESCRIPTION	DATE
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7	REVISED	11-17-82
8	REVISED	11-17-82

REV.	DESCRIPTION	DATE
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6	REVISED	11-17-82
7	REVISED	11-17-82
8	REVISED	11-17-82

REV.	DESCRIPTION	DATE
1	INITIAL	11-17-82
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7	REVISED	11-17-82
8	REVISED	11-17-82

REV.	DESCRIPTION	DATE
1	INITIAL	11-17-82
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8	REVISED	11-17-82

REV.	DESCRIPTION	DATE
1	INITIAL	11-17-82
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5	REVISED	11-17-82
6	REVISED	11-17-82
7	REVISED	11-17-82
8	REVISED	11-17-82

T11 ROM CS
 T11 MCS

T11 ROM CS
 T11 MCS

T11 ROM CS
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 T11 MCS

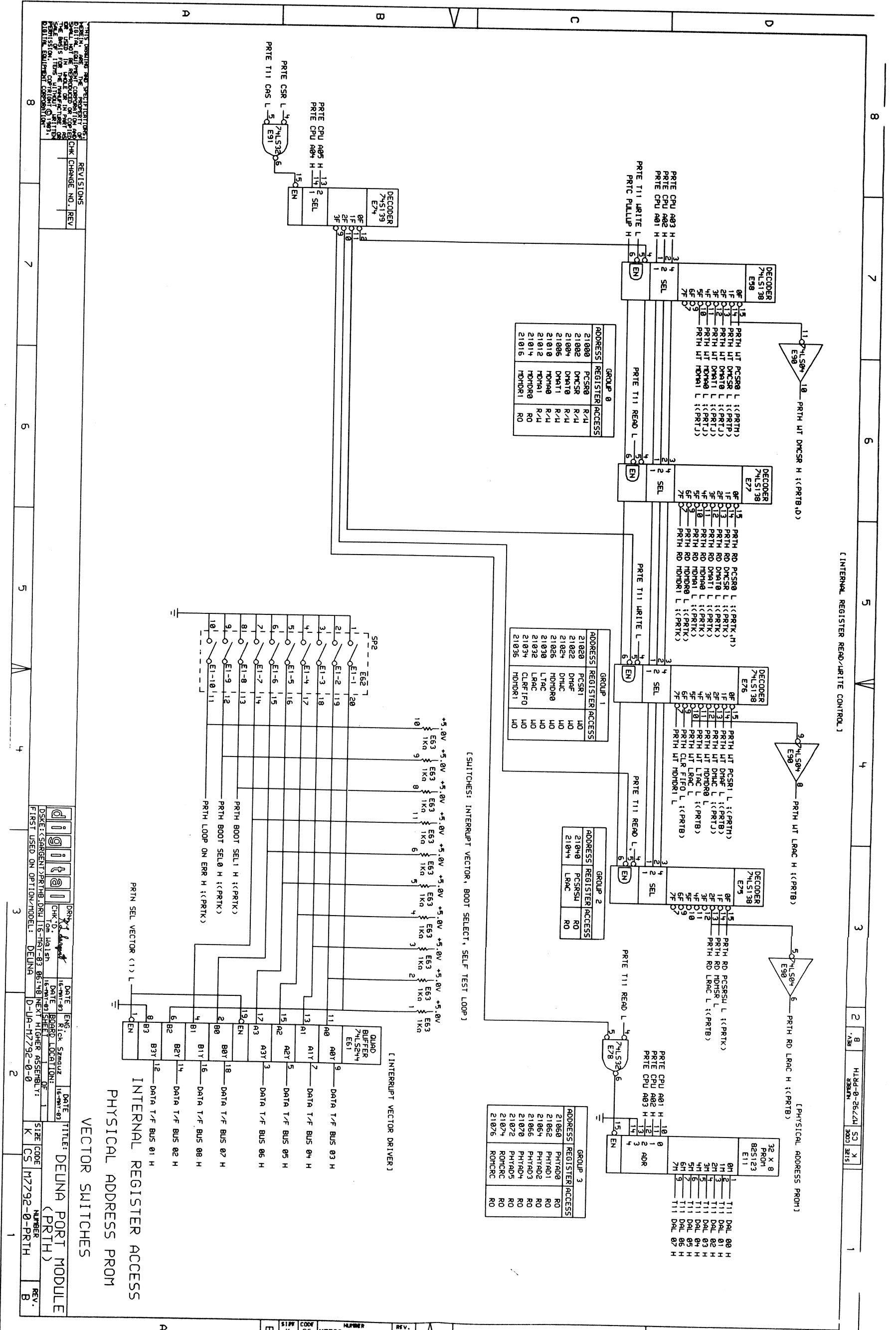
T11 ROM CS
 T11 MCS

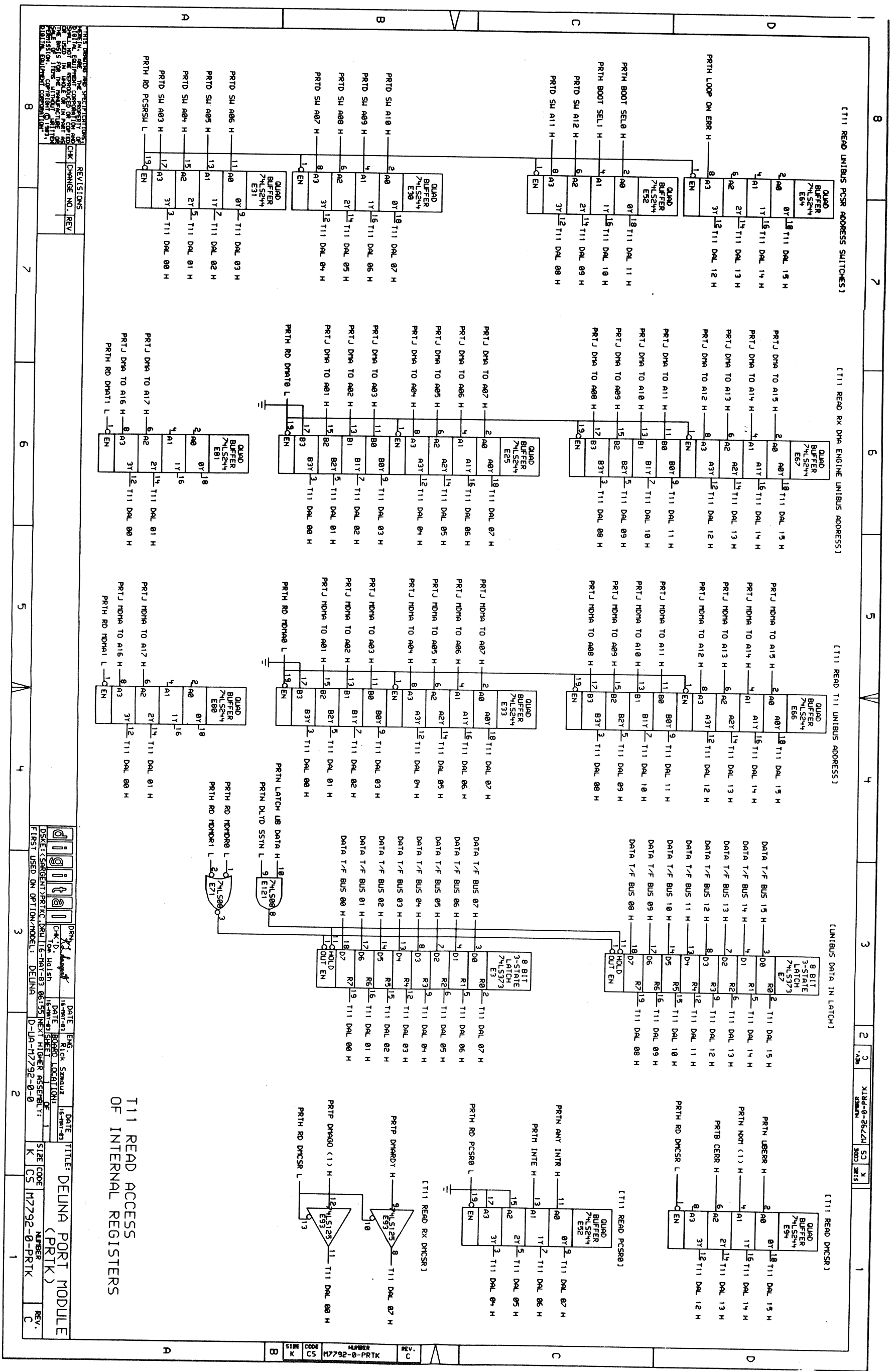
T11 ROM CS
 T11 MCS

T11 ROM CS
 T11 MCS

T11 ROM CS
 T11 MCS

T11 ROM CS
 T11 MCS





REVISIONS

REV.	NO.	DESCRIPTION
1	1	INITIAL RELEASE
2	1	CHANGE NO. 1
3	1	CHANGE NO. 2
4	1	CHANGE NO. 3
5	1	CHANGE NO. 4
6	1	CHANGE NO. 5
7	1	CHANGE NO. 6
8	1	CHANGE NO. 7

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IBM CORPORATION

1971

DATE: 12-11-72

ENG: Rick Szumoz

CHK'D: LUIS H. DEUNA

DATE: 12-11-72

ENG: Rick Szumoz

CHK'D: LUIS H. DEUNA

DATE: 12-11-72

ENG: Rick Szumoz

CHK'D: LUIS H. DEUNA

TITLE: DEUNA PORT MODULE

SIZE CODE: K

CS: H7792-0-PRTK

REV. C

NUMBER: 1

REV. C

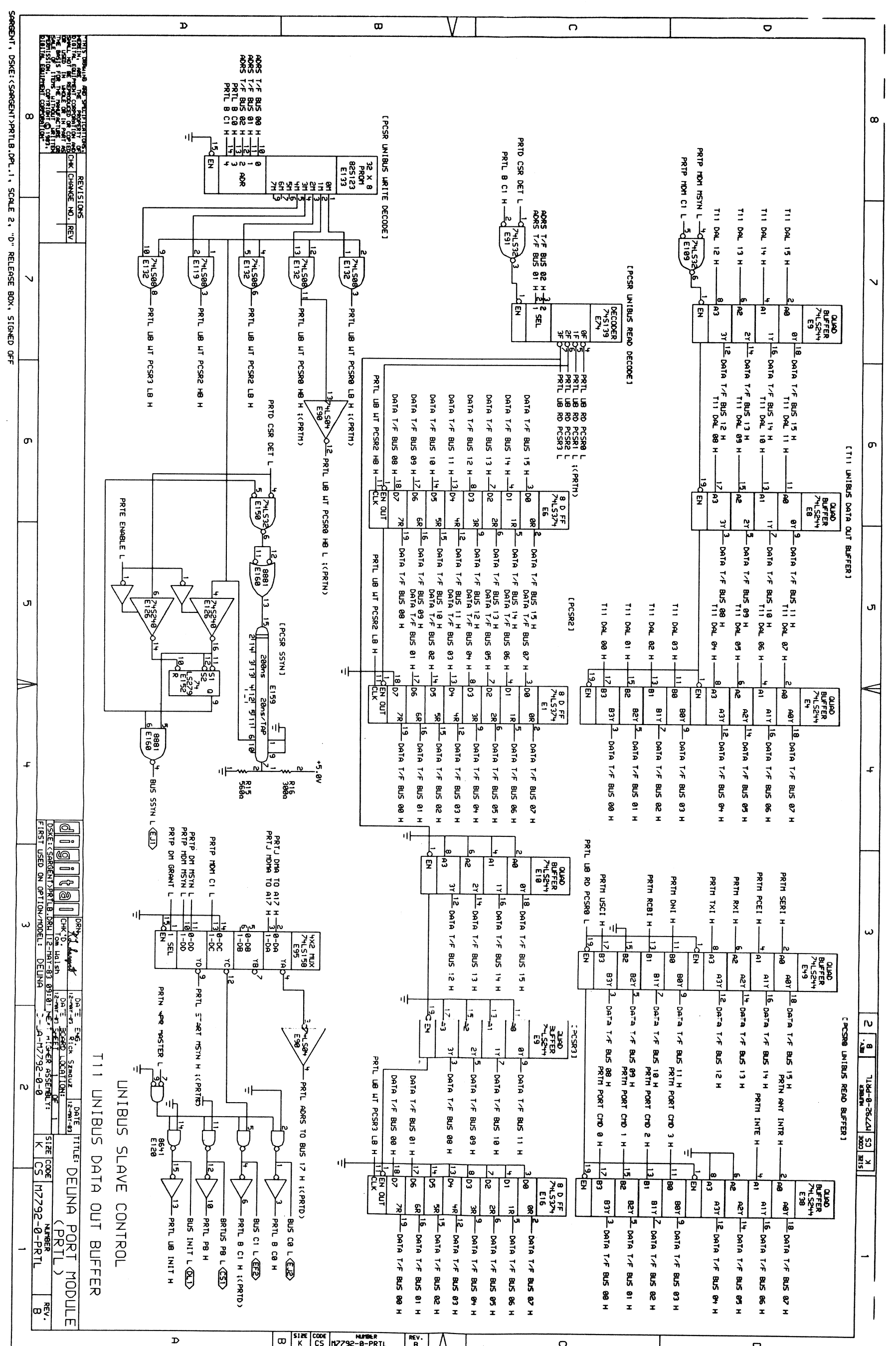
REV. C

CS: H7792-0-PRTK

SIZE CODE: K

NUMBER: 1

REV. C



UNIBUS SLAVE CONTROL
 T11 UNIBUS DATA OUT BUFFER

REV.	NO.	DESCRIPTION	DATE	BY
1	1	INITIAL DESIGN	12-10-83	DEUNA
2	1	REVISIONS		

REVISIONS
 CHECK CHANGE NO. REV.

DESIGNER: DEUNA
 CHECKED: DEUNA
 DATE: 12-10-83
 TITLE: UNIBUS PORT MODULE
 NUMBER: M7792-0-PRTL
 REV. B

UNIBUS SLAVE CONTROL
 T11 UNIBUS DATA OUT BUFFER

UNIBUS SLAVE CONTROL
 T11 UNIBUS DATA OUT BUFFER

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UNIBUS SLAVE CONTROL
 T11 UNIBUS DATA OUT BUFFER

UNIBUS SLAVE CONTROL
 T11 UNIBUS DATA OUT BUFFER

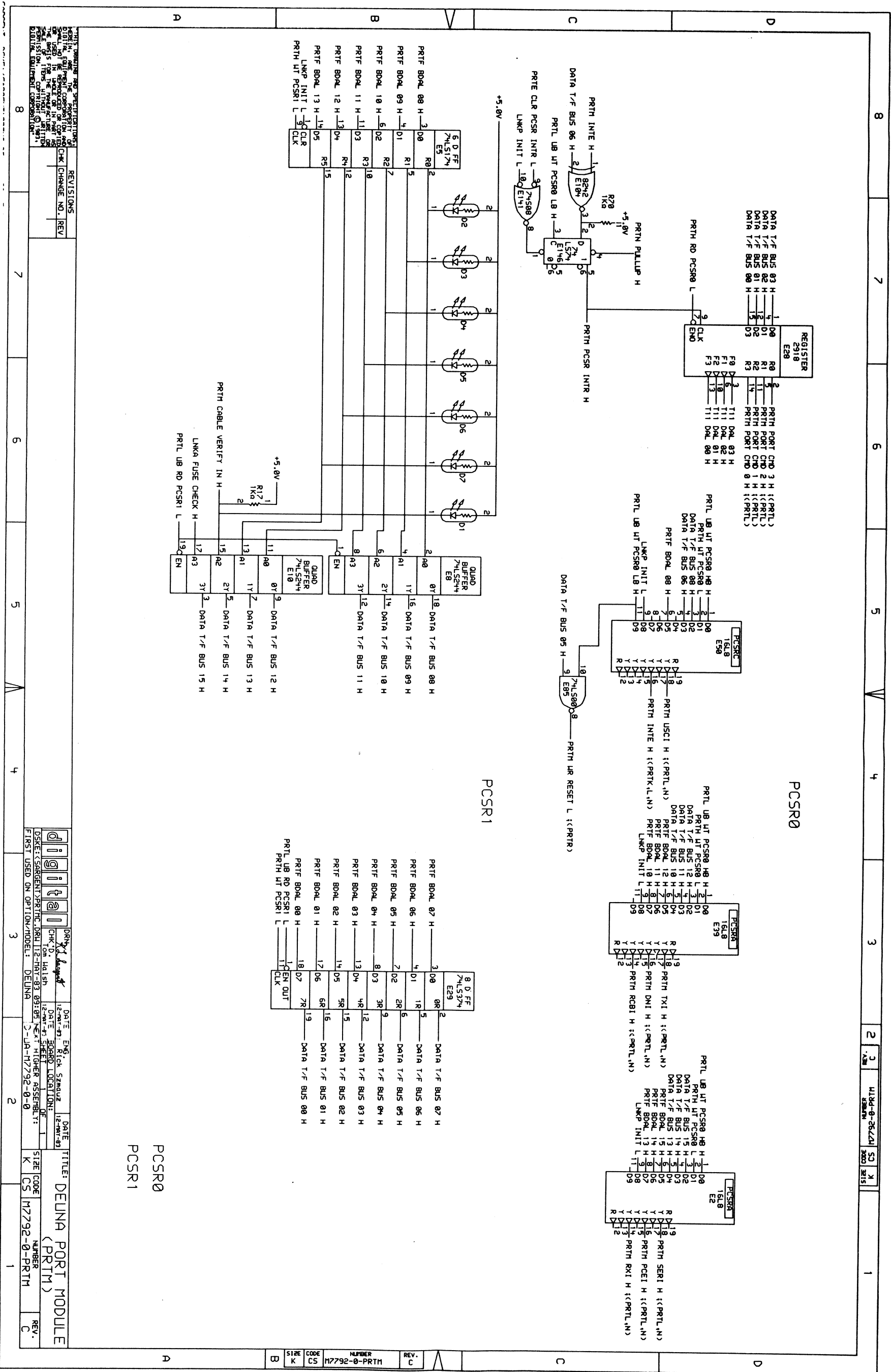
UNIBUS SLAVE CONTROL
 T11 UNIBUS DATA OUT BUFFER

UNIBUS SLAVE CONTROL
 T11 UNIBUS DATA OUT BUFFER

UNIBUS SLAVE CONTROL
 T11 UNIBUS DATA OUT BUFFER

UNIBUS SLAVE CONTROL
 T11 UNIBUS DATA OUT BUFFER

UNIBUS SLAVE CONTROL
 T11 UNIBUS DATA OUT BUFFER



REV.	NUMBER	CS	SIZE	DATE	ENG.	DATE	ENG.	DATE	ENG.
1	M7792-0-PRTM	K	C	12-01-83	Tom Walsh	12-01-83	Tom Walsh	12-01-83	Tom Walsh

TITLE: DEUNA PORT MODULE
 NUMBER: M7792-0-PRTM
 REV.: C

PCSR0
 PCSR1

PCSR0
 PCSR1

PCSR0
 PCSR1

PCSR0
 PCSR1

PCSR0
 PCSR1

PCSR0
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 PCSR1

PCSR0
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PCSR0
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PCSR0
 PCSR1

PCSR0
 PCSR1

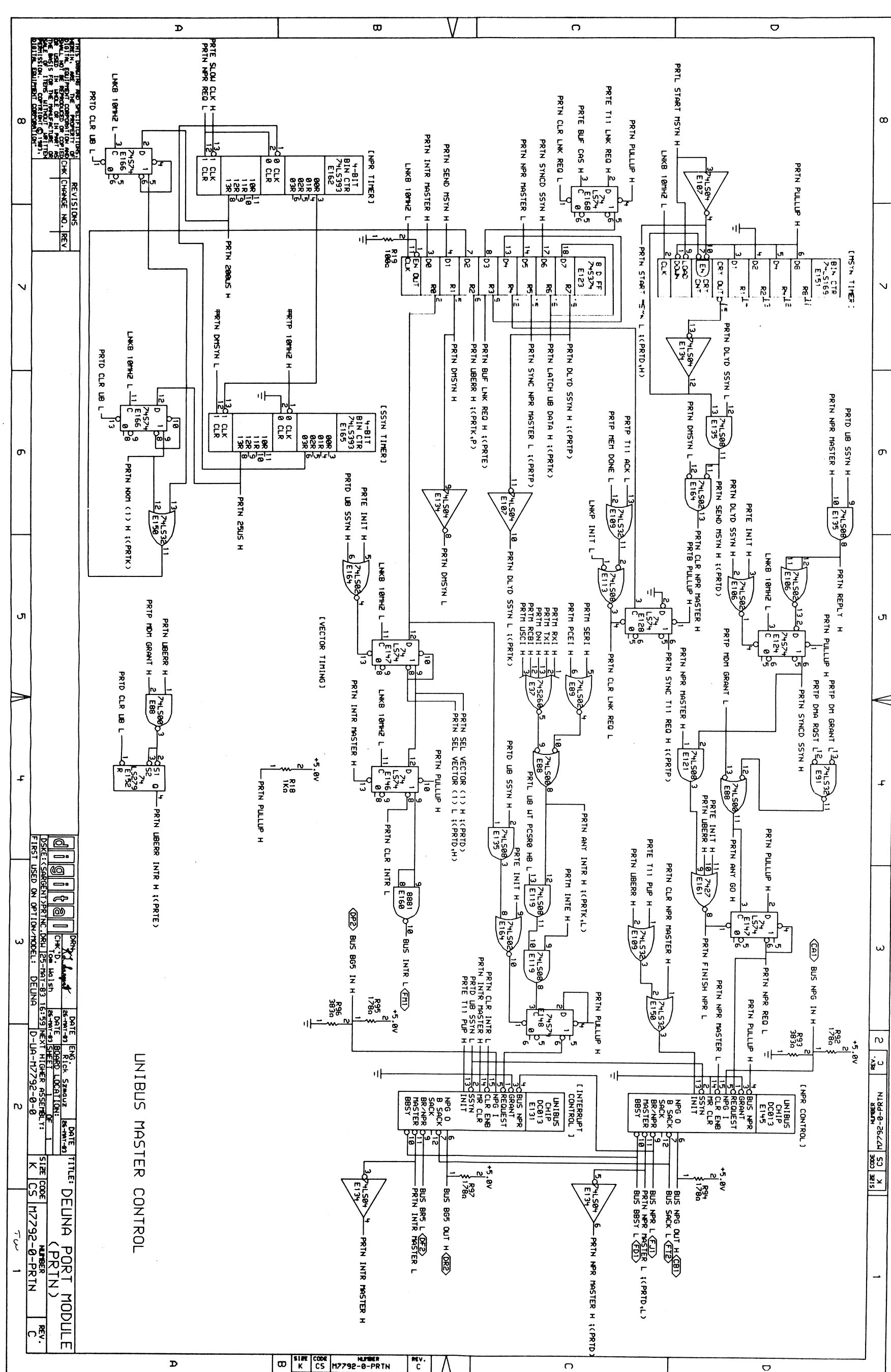
PCSR0
 PCSR1

PCSR0
 PCSR1

PCSR0
 PCSR1

PCSR0
 PCSR1

PCSR0
 PCSR1



UNIBUS MASTER CONTROL

REV.	NO.	DATE	BY	CHK'D	DATE	BY	REV.	NO.	DATE	BY	CHK'D	DATE	BY

REVISIONS:

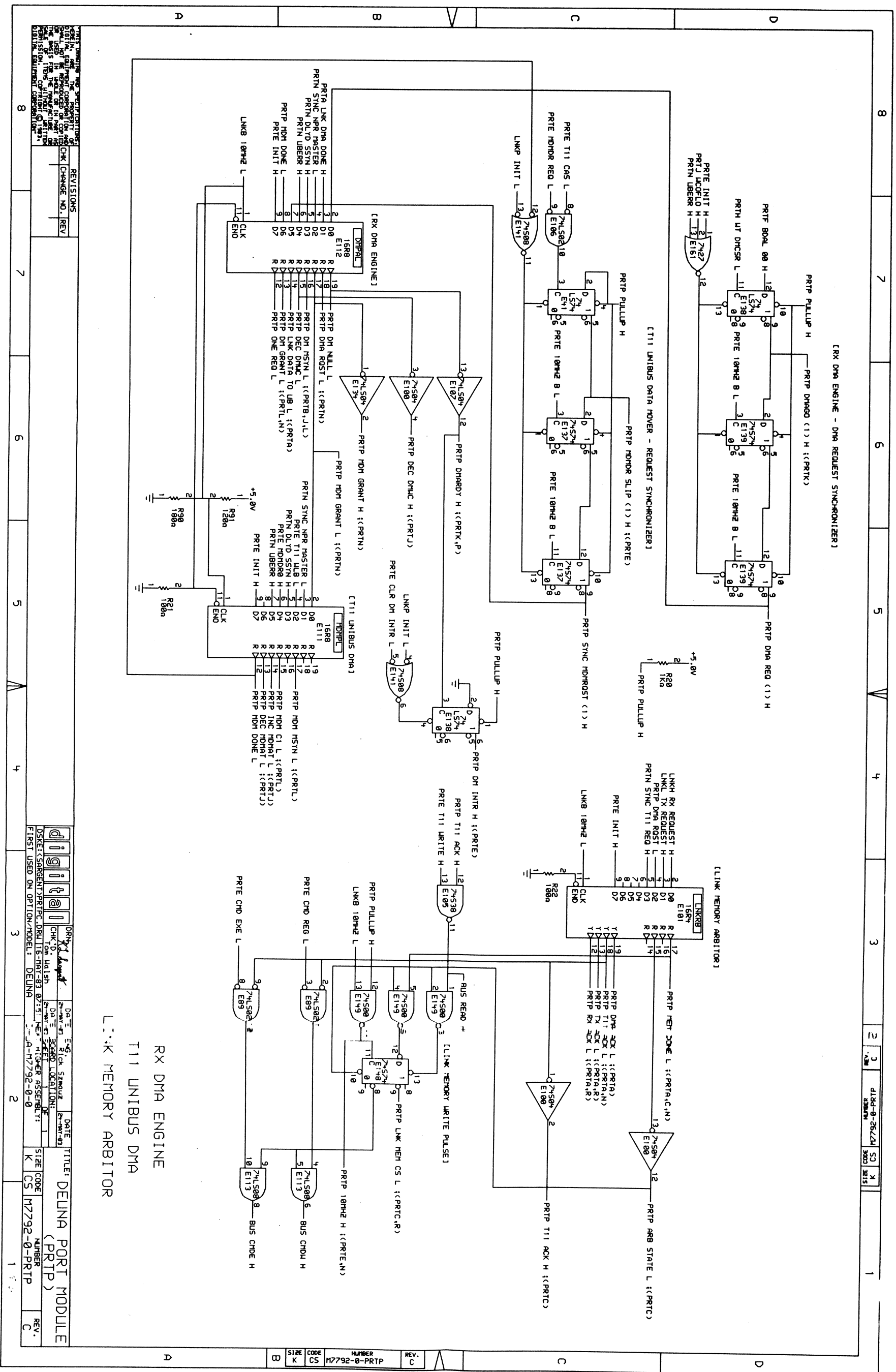
NO.	DESCRIPTION	DATE	BY
1	INITIAL DESIGN		
2	...		

TITLE: DEUNA PORT MODULE (PRINT)

DATE: 17792-0-0

REV: C

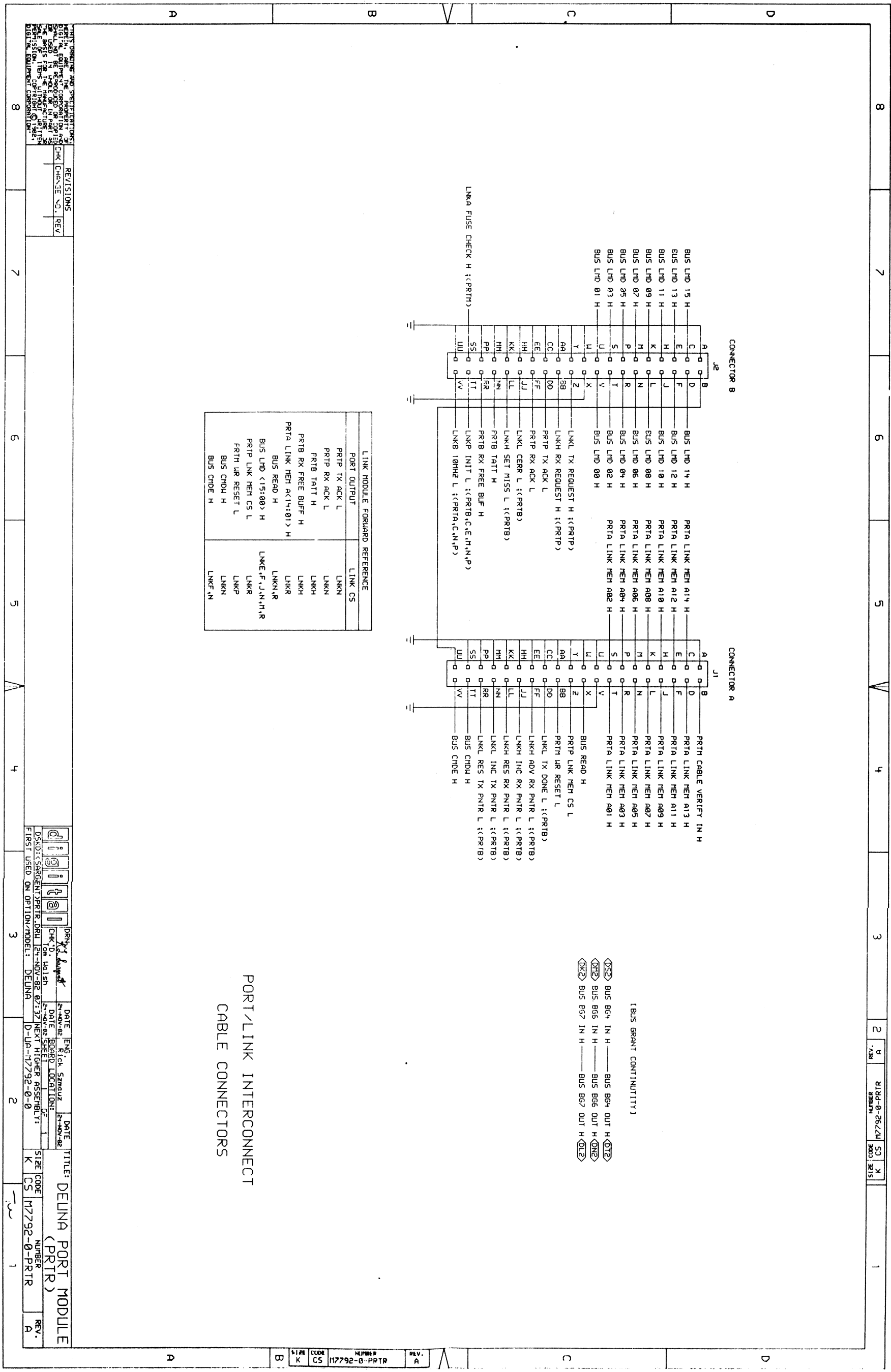
SIZE CODE: K CS 17792-0-PRINT



RX DMA ENGINE
T11 UNIBUS DMA
LINK MEMORY ARBITRATOR

REV.	NO.	DESCRIPTION	DATE	BY	CHK'D BY	APP'D BY
1	1	INITIAL ISSUE	10/15/80	Tom Halish	Tom Halish	Tom Halish
2	2	DESIGN CHANGES	11/15/80	Tom Halish	Tom Halish	Tom Halish
3	3	DESIGN CHANGES	12/15/80	Tom Halish	Tom Halish	Tom Halish
4	4	DESIGN CHANGES	01/15/81	Tom Halish	Tom Halish	Tom Halish
5	5	DESIGN CHANGES	02/15/81	Tom Halish	Tom Halish	Tom Halish
6	6	DESIGN CHANGES	03/15/81	Tom Halish	Tom Halish	Tom Halish
7	7	DESIGN CHANGES	04/15/81	Tom Halish	Tom Halish	Tom Halish
8	8	DESIGN CHANGES	05/15/81	Tom Halish	Tom Halish	Tom Halish

REV. C	NO. 1	DESCRIPTION: DEUNA (PRTP)	DATE: 11/15/80	BY: Tom Halish	CHK'D BY: Tom Halish	APP'D BY: Tom Halish
SIZE: K	CODE: CS	NUMBER: M7792-0-PRTP	TITLE: DEUNA (PRTP)	DATE: 11/15/80	BY: Tom Halish	CHK'D BY: Tom Halish
SIZE: K	CODE: CS	NUMBER: M7792-0-PRTP	TITLE: DEUNA (PRTP)	DATE: 11/15/80	BY: Tom Halish	CHK'D BY: Tom Halish



PORT/LINK INTERCONNECT
CABLE CONNECTORS

REVISIONS

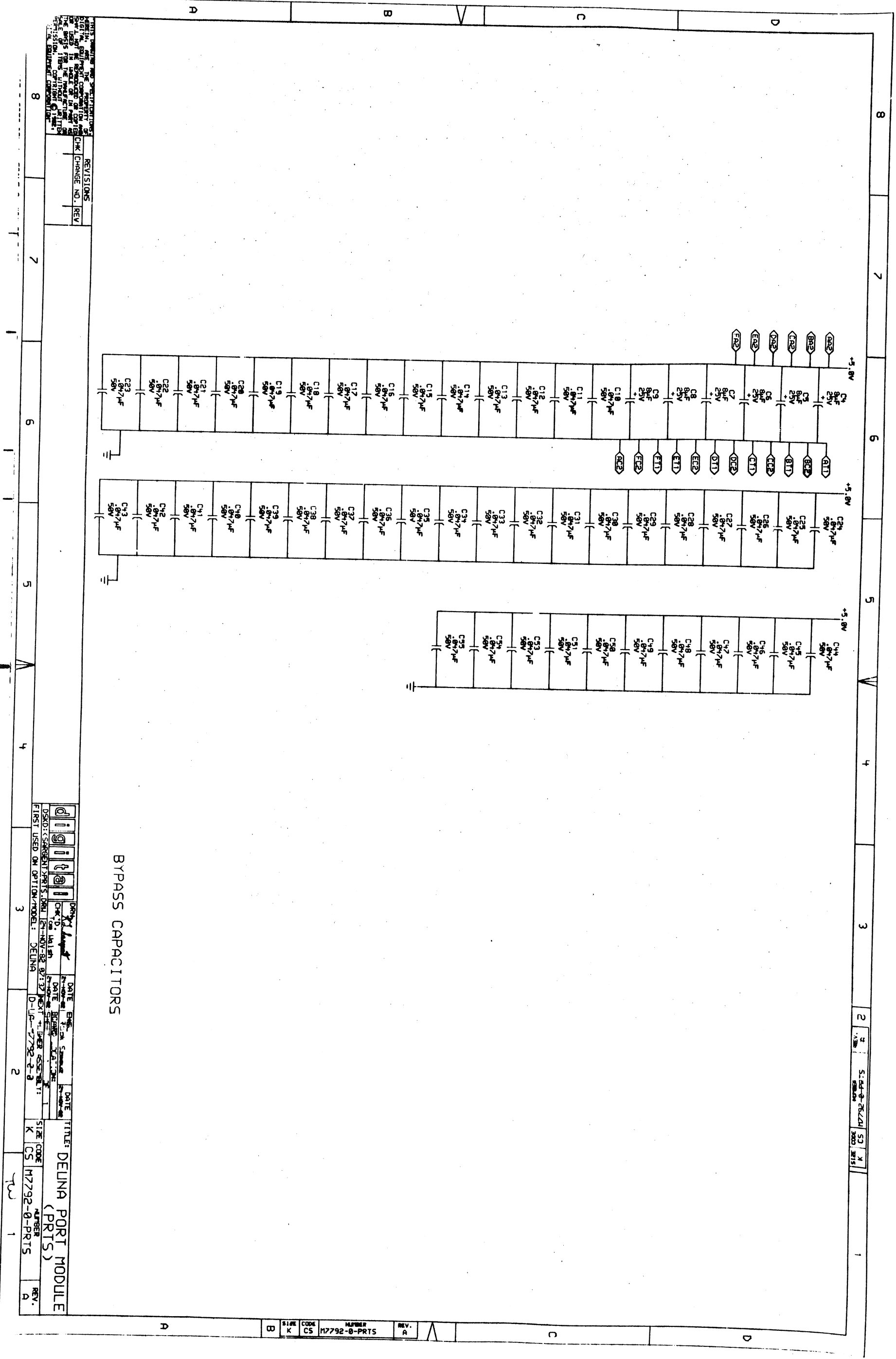
REV. NO.	CHK	REV.
1		

DATE 17-NOV-82 **ENG.** Rick Szanuz **DATE** 17-NOV-82
CHK'D J. W. L. **DATE** 17-NOV-82 **CHK'D** R. L. **DATE** 17-NOV-82
DRY J. W. L. **DATE** 17-NOV-82 **DRY** J. W. L. **DATE** 17-NOV-82

TITLE: DEUNA PORT MODULE
NUMBER: (PRTR)

SIZE CODE K CS **NUMBER** M7792-0-PRTR **REV.** A

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REV.	CHG.	NO.	REV.
1			
2			
3			
4			
5			
6			
7			
8			

DATE	ENG.	DATE	ENG.	DATE	ENG.
NOV-82	...	NOV-82	...	NOV-82	...
TITLE: DEUNA PORT MODULE (PRTS)		SIZE: K		CODE: CS	
NUMBER: M7792-0-PRTS		REV: A		FIRST USED ON OPTION/MODEL: DEUNA	

SIZE	CODE	NUMBER	REV.
K	CS	M7792-0-PRTS	A

8

7

6

5

4

3

2

REV. A
NUMBER
M7792-0-TT4

SIZE CODE
K CS

1

PART NUMBER: 23-089J5-00
LOCATION: E90

DEVICE TYPE: PAL16L8

PIN NUMBER = SYMBOL TABLE:

- 1 = UB UT HB H
- 2 = TI UT L
- 3 = DATA 12 H
- 4 = DATA 13 H
- 5 = DATA 13 H
- 6 = RQAL 15 H
- 7 = BQAL 14 H
- 8 = BQAL 13 H
- 9 = INIT L
- 10 = GND
- 11 = NC1 H
- 12 = NC2 H
- 13 = RX1R L
- 14 = RX1S L
- 15 = PCER L
- 16 = PCER H
- 17 = SER1 L
- 18 = SER1 H
- 19 = VCC H
- 20 = IF

NOTES: PCSRA - (PRTT)
FOR PAL PCSRA-4 (PCSRA SECTION A - REV A)

PAL PINS: 101010101010111111111111
11212141516171819111314151617181

OUTPUT 19

OUTPUT 18 X X X X X X X X X X X X X X X X VCC H

X X X X X X X X X X X X X X X X INIT L

X X X X X X X X X X X X X X X X UB UT HB H # DATA 15 H

X X X X X X X X X X X X X X X X /SER1 L

OUTPUT 17

OUTPUT 17 X X X X X X X X X X X X X X X X VCC H

X X X X X X X X X X X X X X X X TTI UT L # BQAL 15 H

X X X X X X X X X X X X X X X X /SER1 L

OUTPUT 16

OUTPUT 16 X X X X X X X X X X X X X X X X VCC H

X X X X X X X X X X X X X X X X INIT L

X X X X X X X X X X X X X X X X UB UT HB H # DATA 14 H

X X X X X X X X X X X X X X X X /PCER L

OUTPUT 15

OUTPUT 15 X X X X X X X X X X X X X X X X VCC H

X X X X X X X X X X X X X X X X TTI UT L # BQAL 14 H

X X X X X X X X X X X X X X X X /PCER L

OUTPUT 14

OUTPUT 14 X X X X X X X X X X X X X X X X VCC H

X X X X X X X X X X X X X X X X INIT L

X X X X X X X X X X X X X X X X UB UT HB H # DATA 13 H

X X X X X X X X X X X X X X X X /RX1R L

OUTPUT 13

OUTPUT 13 X X X X X X X X X X X X X X X X VCC H

X X X X X X X X X X X X X X X X TTI UT L # BQAL 13 H

X X X X X X X X X X X X X X X X /RX1S L

OUTPUT 12

OUTPUT 12

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CORPORATION.

REV.	CHG. NO.	DESCRIPTION

DATE: 11/1/82
DRN: R. J. Szymanski
CHKD: S. J. Sargent
FILE: M7792-0-TT4

DATE: 11/1/82
DRN: R. J. Szymanski
CHKD: S. J. Sargent
FILE: M7792-0-TT4

DATE: 11/1/82
DRN: R. J. Szymanski
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FILE: M7792-0-TT4

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FILE: M7792-0-TT4

DATE: 11/1/82
DRN: R. J. Szymanski
CHKD: S. J. Sargent
FILE: M7792-0-TT4

SIZE	CODE	NUMBER	REV.
K	CS	M7792-0-TT4	A

TITLE: DEUNA PORT MODULE
PAL LISTINGS
NUMBER

SIZE CODE
K CS

1

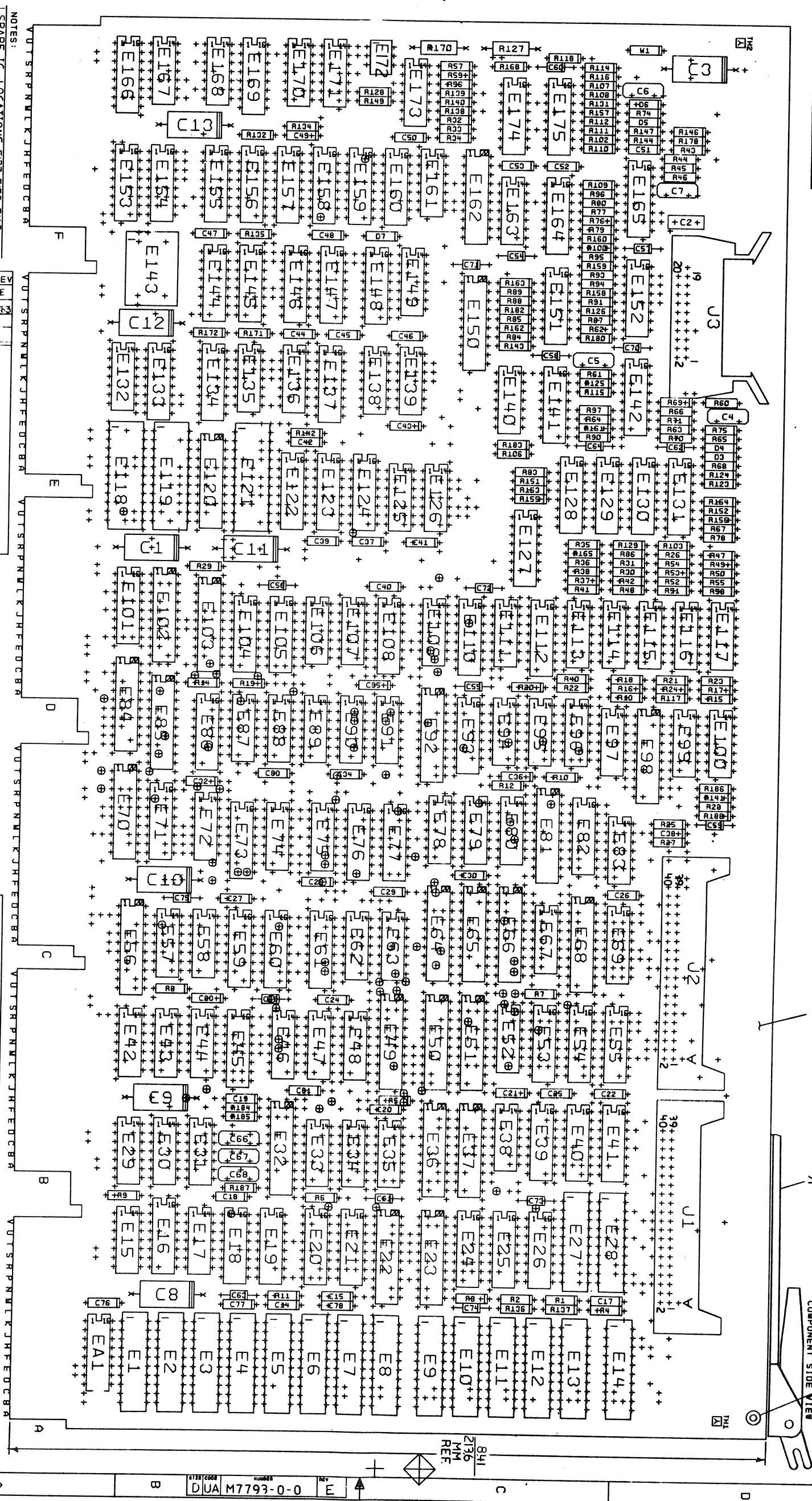
A

C

D

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8 3 0-0-6614M V(D) 7 6 5 4 3 2 1
 841 2736 MM REF



NOTES:
 SPARE IC LOCATIONS: E127 E150 E162
 2 UL REQUIREMENT IS LPMR.

CHK	CHANGE NO	REV
M773-TW4		1
T. WALSH	26 MAY 63	
K. SARCENT		

STEP	E	Y AXIS	STEP - TIMES
REPEAT		X AXIS	STEP - TIMES

DRN	DATE	SIGNATURES
CHK. D.	4/17/63	
MECH. ENG.		
PROJ. ENG.		
PROD.		
SCALE	2/1	
SHT.	0F	

TITLE	DEUNA
LINK	MODULA
SIZECODE	
NUMBER	
REV	

ETCH REV. C-P1

1 W0#173162
 0 UAI M7793-0-0

8 7 6 5 4 3 2 1

A B C D

DUA M7793-0-0

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION	REFERENCE DESIGNATOR
1	D-MD-5015005-0-0	5015005-00	DRILL AND ETCH CUT	1	C2
2		1010978-36	.1 MFD	1	C4, C6
3		1002424-00	1200.0 MMF	2	C5, C7
4		1000019-00	150.0 MMF	2	C14, C15, C17, C18, C19, C20, C21, C22, C23, C24, C25, C26, C27, C28, C29, C30, C31, C32, C33, C34, C35, C36, C37, C38, C39, C40, C41, C42, C43, C44, C45, C46, C47, C48, C49, C50, C51, C52, C53, C54, C55, C56, C57, C58, C59, C60, C61, C62, C63, C64, C65, C70-C78
5		1012784-00	.047 MFD	39	C66, C67
6		1001610-00	.01 MFD	21	C68
7		1005820-00	22.0 MMF	2	D3, D4, D5, D6, D7
8		1000010-00	39.0 MMF	1	E1, E2, E3, E4, E5, E6, E7, E8, E9, E10, E11, E12, E13, E14, E27, E28
9		1100114-00	PIV = 25 IO=135 MA	5	E15
10		2118054-03	16K MOS RAM	16	E16, E18, E19, E20, E59, E60, E76, E134, E169
11		1913340-00	74532 OR GATE-QUAD 2IN	1	E17
12		1912851-00	LS169 COUNTER, SYNCH. UP/DO	9	E21, E24, E25, E26, E39, E40, E55, E156, E158
13		1912811-00	LS21 AND GATE-DUAL 4IN, PO	1	E22, E23, E50, E102, E103
14		1912849-00	LS161 COUNTER, SYNCHR, 4BIT	9	E29, E38, E95, E167
15		23000K4-01	PAL, LOGIC	5	E30, E44
16		1912805-00	LS08 AND GATE-QUAD 2IN, PO	4	E31, E35, E78, E79, E149
17		1912820-00	LS51 A-0-I GATE 2-WIDE 2I	2	E32, E36, E37, E49, E51, E56, E70, E84, E85, E92
18		1912803-00	LS04 INVERTER GATE, HEX	5	E85, E92
19		23000K5-01	PROGRAMMABLE LOGIC ARRAY	10	E85, E92
20		1912799-00	LS00 NAND-GATE-QUAD 2IN, P	3	E33, E52, E80
21		1912824-00	LS74 FF-D DUAL, EDGE TRIGG	4	E34, E42, E94, E161

REVISION HISTORY

ENG	ECO NUMBER	REV	SECTION A OF A	BASIC PART NO:	DRN:	R	LOVE	DATE:	09-14-82	TITLE	D	I	G	I	T	A	L
				M7793													
INITIAL																	
TE	M7793-TW003	A	SECTION VARIATION INDEX														
NB	M7793-TW004	B	[A] 00														
		C	[B]														
			[C]														
			[D]														
			[E]														
			[F]														
			[H]														
			[J]														
			[K]														
			[L]														
			[M]														
			[N]														

CHK'D: C COSTA DATE: 09-14-82

DES. ENG: M STECKLAIR DATE: 09-14-82

RESP. ENG.: M STECKLAIR DATE: 09-14-82

MFG. ENG.: DANA DUNCAN DATE: 09-14-82

ASSEMBLY NUMBER: TOP DOCUMENT NUMBER: B-DD-M7793-0-0

FILE NAME: Z3922C.PLS

EDIT # 16

DE UNA LINK MODULE

DOCUMENT NUMBER

REV C

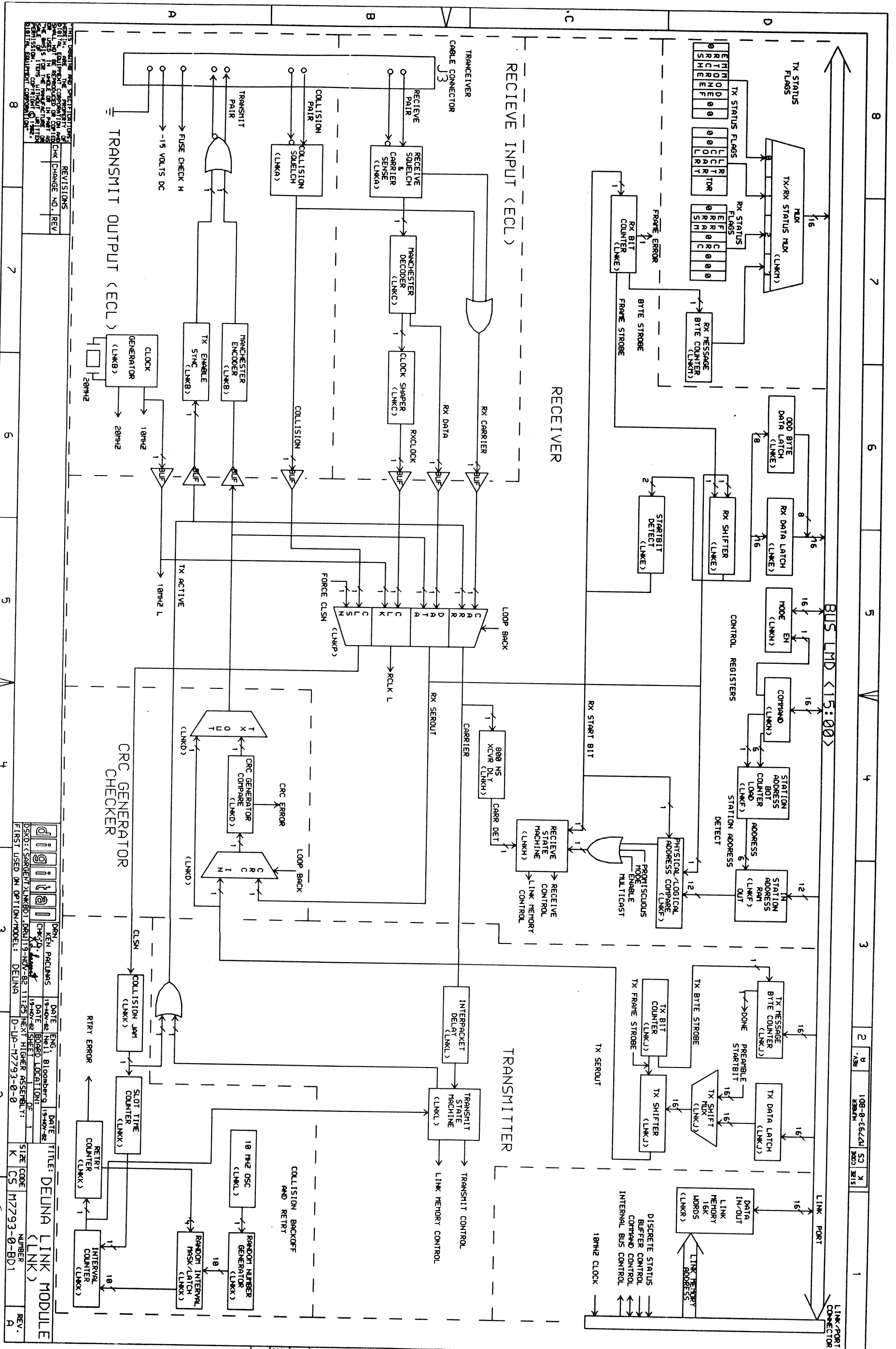
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LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION	REFERENCE DESIGNATOR
22		1910550-00	74S174 FF-D HEX	5	E41, E61, E101, E133, E159
23		1912810-00	LS20 NAND GATE-DUAL 4IN	1	E43
24		1911911-00	OSCILLATOR, DUAL VOLT	1	E45
25		1910534-00	INVERTER GATE-HEX 1I	5	E46, E75, E87, E99, E115
26		1910537-00	AND GATE-TRIPLE 3INP	2	E47, E106
27		1912807-00	NAND GATE-TRIPLE 3IN	1	E48
28		1912847-00	MUX 1 OF 2 (QUAD)	2	E53, E82
29		1915758-00	LS157 SHIFT REG. 8BIT PARA	2	E54, E69
30		1914085-00	LS166 NOR GATE-DUAL, POS	2	E57, E72
31		1910539-00	74S260 NAND GATE-DUAL 4INPU	2	E58, E88
32		1910536-00	74S20 NAND GATE-TRIPLE 3IN	2	E62, E109
33		1912850-00	74S10 NAND GATE-TRIPLE 3IN	2	E63, E67
34		1914214-00	LS164 SHIFT REG. 8BIT SERI	2	E63, E67
35		1911983-00	LS374 FF-D OCTAL EDGE TRIG	3	E64, E65, E66, E68, E98
36		1910957-00	74S175 NAND GATE-POSITIVE 1	3	E71, E104, EAI
37		1910532-00	74S00 FF-D QUAD COMMON CLO	1	E73
38		1912646-00	74500 NAND GATE-QUAD 2IN	3	E74, E111, E135
			LS253 MUX 1 OF 4 (DUAL)	8	E77, E124, E144, E145, E147, E148, E154, E155
39		1913671-00	74S374 FF-D, OCTAL, TRI STATE	2	E81, E120
40		1912746-00	DEC 74S37 NAND GATE-QUAD 2IN	1	E83
41		1910548-00	74S157 MUX 1 OF 2 (QUAD)	2	E85
42		1911712-00	74S51 AND-OR GATE-INVERT D	1	E86, E112
43		1912801-00	LS02 NOR-GATE-QUAD 2IN	2	E89
44		1912389-00	74S08 AND-GATE-QUAD 2IN, PO	2	E90, E139
45		1912697-00	LS174 FF-D HEX W/CLEAR	1	E91
46		1912816-00	LS32 OR GATE-QUAD 2IN, POS	4	E93, E108, E110, E123
47		1300005-01	R NETWORK 13-1K	2	E96, E138
48		1915019-00	74S38 NAND BUFFER-QUAD 2IN	1	E97
49		1914082-00	74S163 COUNTER, SYNCH UP/DOW	1	E100
50		1910544-00	74S74 FF-D DUAL, EDGE TRIGG	5	E105, E122, E137, E146, E153, E157, E166
51		1514962-00	TPQ2907 PNP 500MW SI 40 100	4	E107, E136, E168, E170, E171
52		1915697-00	RAM 256X4 TRI-STATE	3	E113, E114, E116, E117
53		1912813-00	LS27 NOR GATE-TRIPLE 3IN	1	E118, E119, E121
54		1912808-00	LS11 AND GATE-TRIPLE 3IN	1	E125
55		1918353-00	10231 FF-D MASTER-SLAVE	5	E126
56		1911402-00	10105 OR/NOR GATE, 2-3-2	4	E128, E130, E151, E174, E175
57		1912096-00	10105 OR/NOR GATE, 2-3-2	4	E129, E131, E141, E152
58		1911601-00	DEC 74S86 XOR GATE, QUAD 2IN	1	E132
59		1611601-00	DELAY = 50NS, TAPPED LINE	1	E140
60		1913220-00	10216 RECEIVER, TRIPLE LINE	1	E142, E165
61		1811660-00	OSCILLATOR, XTAL 20.000 MHZ	1	E143
62		1911579-00	8641 TRANSCEIVER, BUS, QUA	1	E160
63		1619248-00	DELAY = 25/74NS ECL MULTI-LOGIC	1	E163
64		1911404-00	10107 XOR/NOR GATE, 3-2IN	1	E164
65		1913009-00	4N36 OPTO COUPLED ISLTR	1	E172
66		1912388-00	74S02 NOR GATE-QUAD 2IN, PO	1	E173
67		1209941-02	PCB, HEADER 40PIN(2X20), 100CC 90D	1	J1, J2
67		1209941-13	PCB, HEADER 19PIN(2X10), 100CC 90D	1	J3

D	I	G	I	T	A	L	TITLE	SECTION A	OF A	SIZE	CODE	DOCUMENT NUMBER	REV
							DE UNA LINK MODULE	A	A	K	PL	M7793-0-DBP	C

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION	REFERENCE DESIGNATOR
68	68	1301322-00	180.0 .25 W 5.0 % CF	27	R1, R32, R56, R78, R85, R86, R87, R89, R90, R91, R95, R100, R108, R111, R112, R114, R115, R118, R124, R137, R138, R146, R151, R152, R183, R171, R188, R2, R67, R102, R116, R125, R126, R129, R136, R157, R158, R159, R160, R161, R162, R163, R168, R178, R172, R4, R3, R5, R6, R8, R14, R19, R20, R128, R7, R9, R11, R12, R132, R134, R135, R141, R142, R186, R187, R10, R43, R45, R61, R63, R185, R13, R16, R21, R22, R27, R28, R37, R40, R41, R52, R15, R23, R24, R17, R48, R51, R18, R26, R30, R33, R36, R38, R47, R49, R50, R54, R57, R58, R107, R123, R140, R153, R154, R25, R31, R42, R29, R34, R59, R117, R131, R139, R155, R156, R35, R64, R65, R83, R84, R88, R96, R97, R103, R109, R110, R143, R147, R165, R180, R182, R44, R46, R60, R62, R66, R70, R77, R80, R93, R94, R53, R55, R69, R71, R76, R79
69	69	1300247-00	120.0 .25 W 5.0 % CF	19	
70	70	1300229-00	100.0 .25 W 5.0 % CF	8	
71	71	1300365-00	1.0 K .25 W 5.0 % CF	11	
72	72	1302388-00	2.0 K .25 W 5.0 % CF	6	
73	73	1302957-00	121.0 .25 W 1.0 % RNS5D-F10	10	
74	74	1302872-00	681.0 .25 W 1.0 % RNS5D-F1	3	
75	75	1303036-00	56.20 .25 W 1.0 % RNS5D-F10	3	
76	76	1301972-00	270.0 .25 W 5.0 % CF	17	
77	77	1301421-00	15.0 .25 W 5.0 % CF	3	
78	78	1300479-00	10.0 K .25 W 5.0 % CF	1	
79	79	1301775-00	820.0 .25 W 5.0 % CF	7	
80	80	1300316-00	470.0 .25 W 5.0 % CF	16	
81	81	1313150-00	430.0 .25 W 5.0 % CF	10	
82	82	1305121-00	38.30 .25 W 1.0 % RNS5D-F10	6	
83	83	1303179-00	*** THIS ITEM IS NOT USED ***	-	
84	84	1300271-00	8.20 K .25 W 5.0 % CF	1	
85	85	1300356-00	220.0 .25 W 5.0 % CF	1	
86	86	1300309-00	820.0 .50 W 10.0 % CF	1	
87	87	1300432-00	390.0 .25 W 5.0 % CF	2	
88	88	9009185-00	3.0 K .25 W 5.0 % CF	1	
89	89	1012084-01	JUMPER, WIRE, INSULATED, BLACK B	1	
90	90	121G988-02	8 MFD 25V +75-10% AL EL	8	
91	91	9009000-00	HANDLE, MODULE, HEX TWO EJECTORS	1	
92	92	1302391-00	EYELET, ROLLED 0.121DDX0.156	12	
93	93	1304837-00	20.0 K .25 W 5.0 % CF	1	
94	94	1300488-00	24.0 K .25 W 5.0 % CF	1	
95	95	1300488-00	12.0 K .25 W 5.0 % CF	1	
96	96	9105740-55	WIRE(WRAP) 30AWG KYNAR UL14	A/R	

D	I	G	I	T	A	L	TITLE	SECTION A OF A	SIZE	CODE	DOCUMENT NUMBER	REV
							DE UNA LINK MODULE		K	PL	M7793-0-DBP	C



REVISIONS

REV	CHK CHANGE NO.	REV
7		
8		

REVISIONS

REV	CHK CHANGE NO.	REV
7		
8		

REVISIONS

REV	CHK CHANGE NO.	REV
7		
8		

REVISIONS

REV	CHK CHANGE NO.	REV
7		
8		

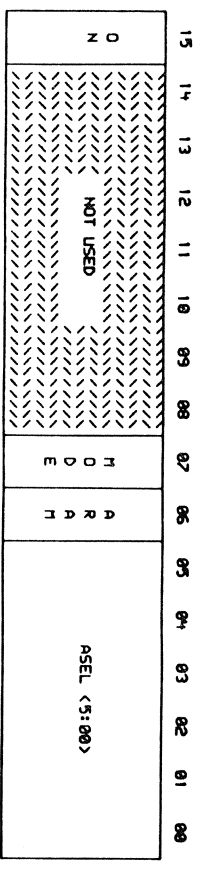
REVISIONS

REV	CHK CHANGE NO.	REV
7		
8		

REVISIONS

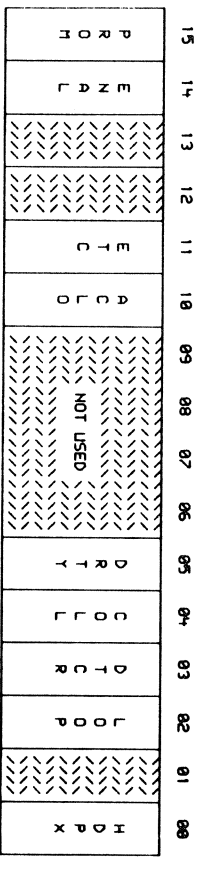
REV	CHK CHANGE NO.	REV
7		
8		

COMMAND REGISTER (WRITE ONLY)



STATION ADDRESS RAM WRITE ADDRESS
 STATION ADDRESS RAM WRITE SELECT
 MODE REGISTER WRITE SELECT
 LINK ON

MODE REGISTER (WRITE ONLY)



HALF DUPLEX
 INTERNAL LOOPBACK
 DISABLE CRC ON TRANSMIT
 FORCE COLLISION
 DISABLE RETRY
 SET UNIBUS AGL0
 ENABLE TRANSCIEVER COLLISION TEST
 ENABLE ALL MULTICAST STATION ADDRESS
 ENABLE ALL STATION ADDRESS

LINK CONTROL REGISTERS
 COMMAND AND MODE

REVISIONS
 CHG. CHANGE NO. REV.

8 7 6 5 4 3 2 1

DEUNA LINK MODULE
 (LINK)
 DEUNA
 DATE: 11-22-82
 SIZE CODE: K CS
 NUMBER: M7793-0-1R1
 REV. A

8

7

6

5

4

3

2

1

REV. A 281-0-66/4J CS K 15

1

TRANSMIT STATUS WORD 0 (LINK MEMORY BUFFER)

15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00
0	E	H	H	O	D	0	0	0	0	0	0	0	0	0	0
0	R	N	O	N	E	F									
0	R	C	R	E											
0	S	H	E												

TRANSMISSION DEFERRED
 ONE COLLISION
 MORE THAN ONE COLLISION
 STATION ADDRESS MISMATCH ON TRANSMISSION
 ERROR SUMMARY

RECEIVE STATUS WORD 0 (LINK MEMORY BUFFER)

15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00
0	E	F	C	0	0	0	0	0	0	0	0	0	0	0	0
0	R	R	R	0											
0	R	A	C												
0	S	H													

CRC ERROR
 FRAMING ERROR
 ERROR SUMMARY

TRANSMIT STATUS WORD 1 (LINK MEMORY BUFFER)

15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00
0	0	0	L	L	R										
0	0	0	C	C	T										
0	0	0	O	A	R										
0	0	0	L	R	Y										

CABLE FAULT DISTANCE COUNT
 TRANSMISSION ABORTED-16 ATTEMPTS
 LOSS OF CARRIER
 TRANSMISSION ABORTED-LATE COLLISION

RECEIVE STATUS WORD 1 (LINK MEMORY BUFFER)

15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00
0	0	0													
0	0	0													
0	0	0													

MESSAGE LENGTH

LINK STATUS REGISTER FORMAT
 (WORDS 0 AND 1 OF LINK MEMORY BUFFER)

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REVISIONS

CHK	CHANGE NO.	REV

8

7

6

5

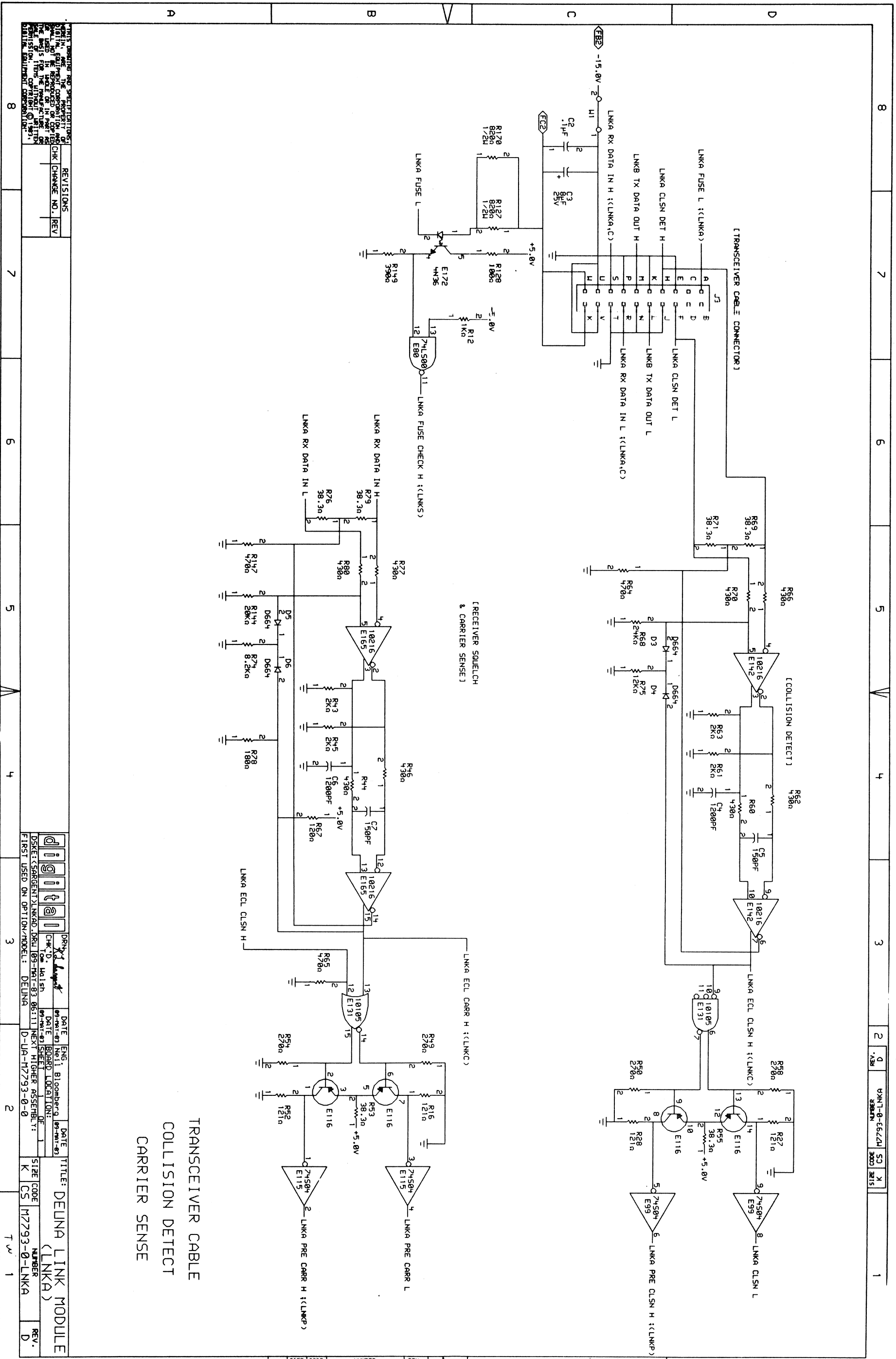
4

3

2

1

DATE: 11-23-82
 DRAWN: DEUNA
 CHECKED: DEUNA
 TITLE: DEUNA LINK MODULE (LNK)
 NUMBER: M7793-0-IR2
 SIZE: K CS
 FIRST USED ON OPTION/MODEL: DEUNA



TRANSCEIVER CABLE
COLLISION DETECT
CARRIER SENSE

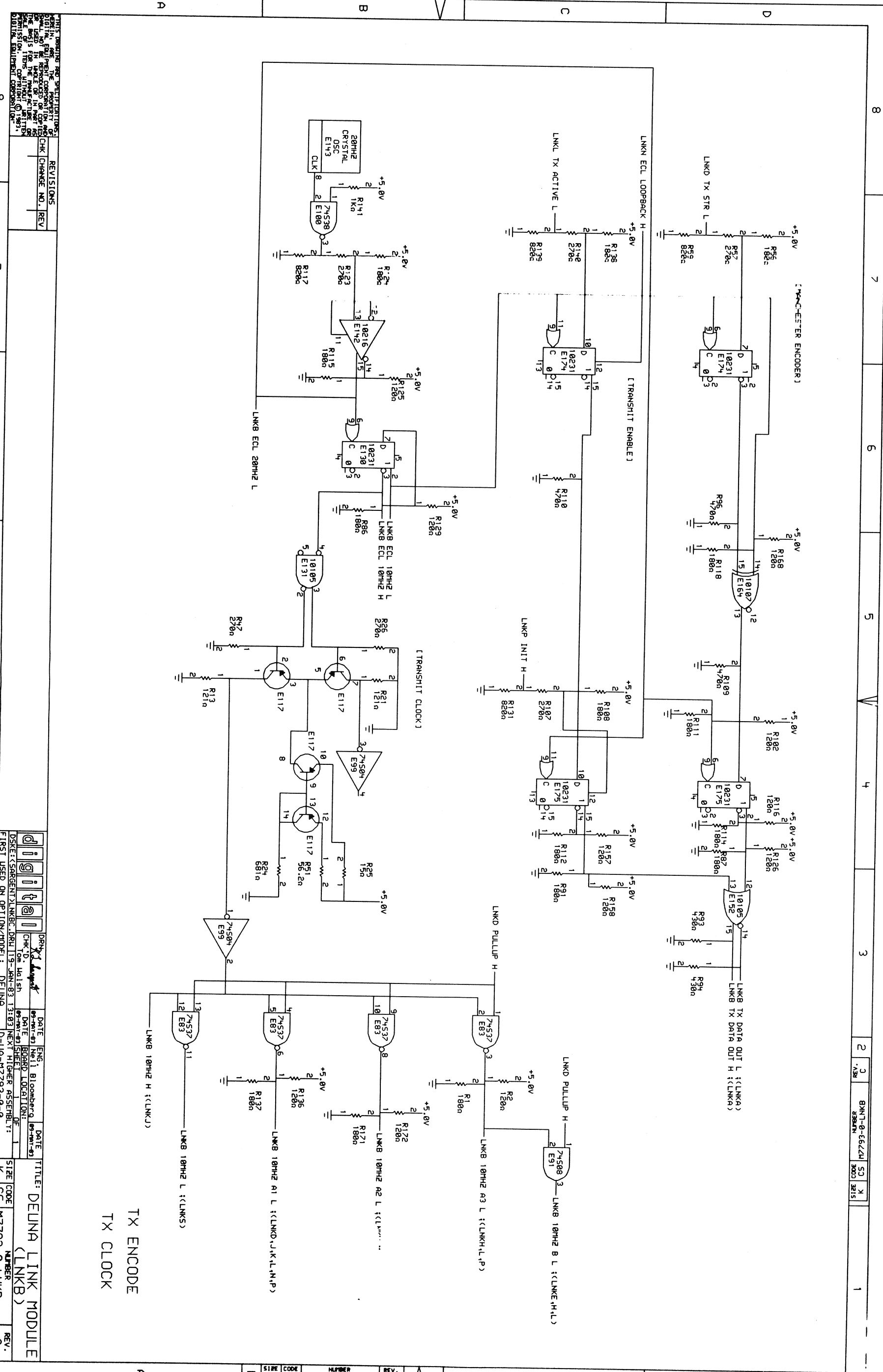
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REV.	NO.	DESCRIPTION
1	1	INITIAL RELEASE
2	1	REVISIONS
3	1	CHK CHANGE NO. REV

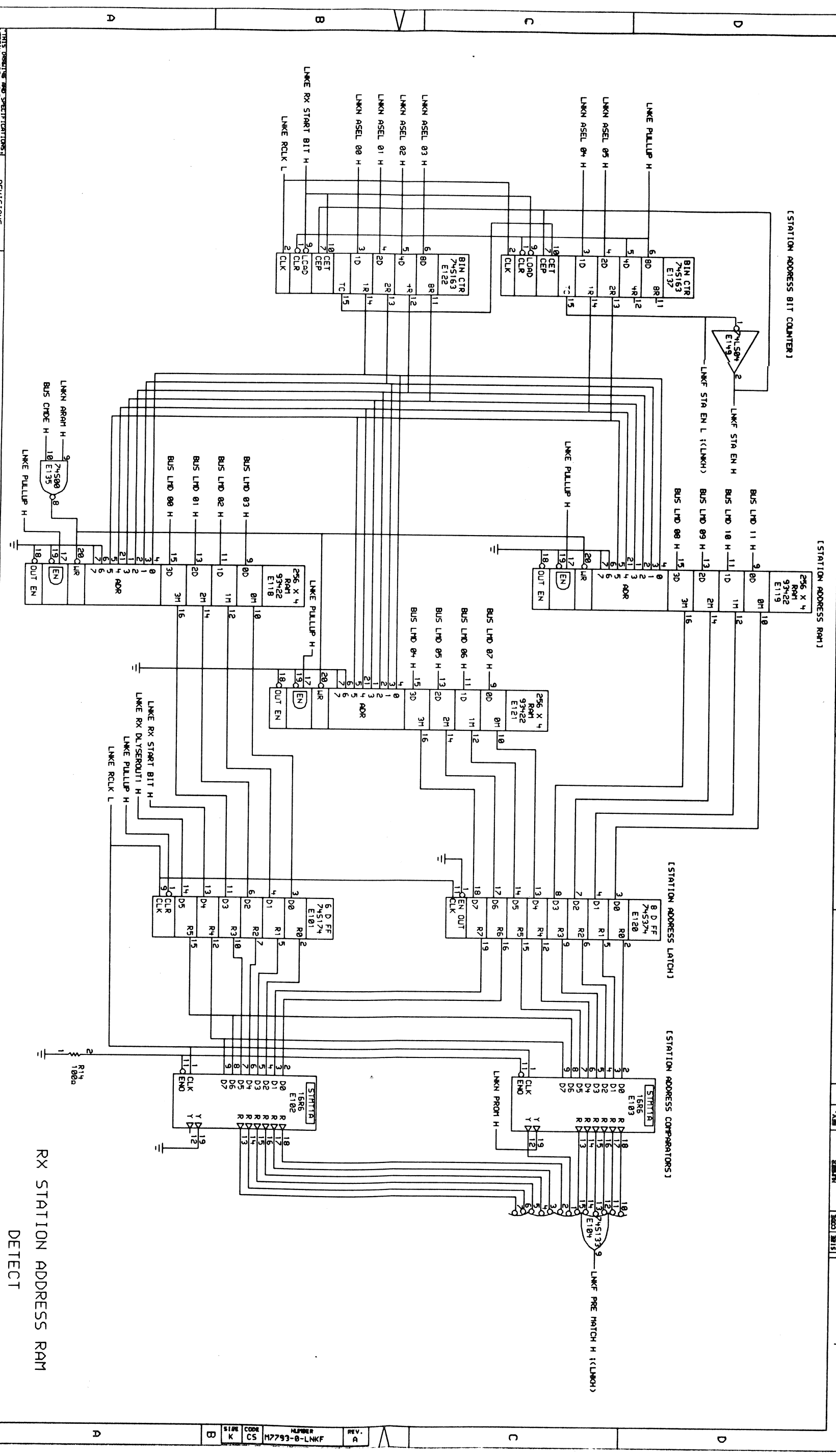
REV.	NO.	DESCRIPTION
1	1	INITIAL RELEASE
2	1	REVISIONS
3	1	CHK CHANGE NO. REV

DATE	ENG	1	Bloomberg	DATE	TITLE	DEUNA LINK MODULE
DATE	REV	1	1	DATE	BOARD LOCATION	(LNKA)
DATE	REV	1	1	DATE	SIZE CODE	K
DATE	REV	1	1	DATE	NUMBER	1
DATE	REV	1	1	DATE	REV.	D

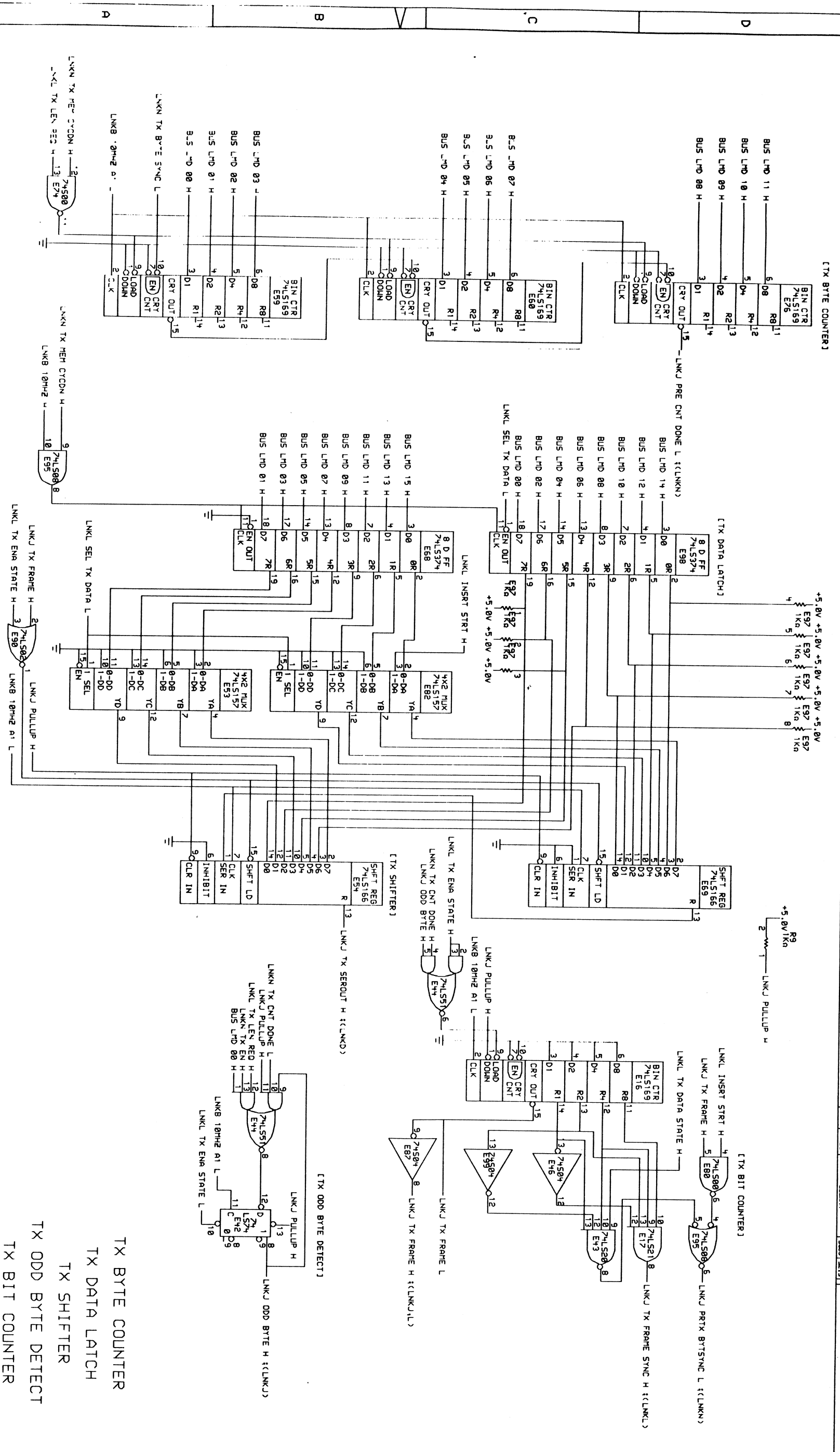
SIZE	CODE	NUMBER	REV. D.
K	CS	M7793-0-LNKA	



REV.	NO.	DESCRIPTION	DATE	BY	CHK'D	DATE	BY
1	1	INITIAL RELEASE	1983-01-19	Tom Laidish	Tom Laidish	1983-01-19	Tom Laidish
2	2	REVISIONS					
3	3	REVISIONS					
4	4	REVISIONS					
5	5	REVISIONS					
6	6	REVISIONS					
7	7	REVISIONS					
8	8	REVISIONS					

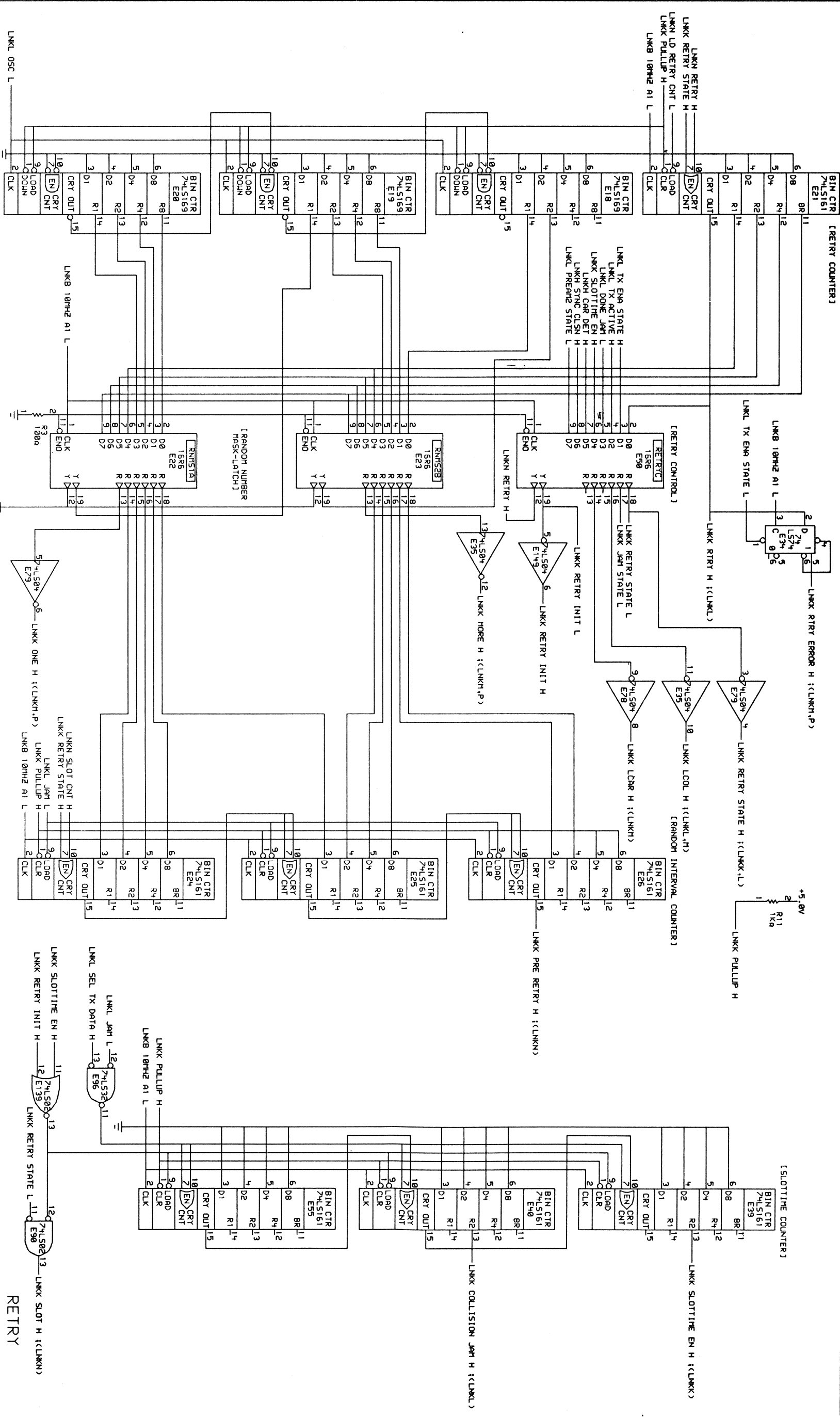


REV.	NO.	DATE	BY	CHK	DESCRIPTION
1	1	11/27/93	DEUNA	DEUNA	INITIAL RELEASE



REV.	DESCRIPTION	DATE	BY	CHKD	APP'D
1	INITIAL	12-11-82	DEJUNA		
2	REVISED	12-11-82	DEJUNA		
3	REVISED	12-11-82	DEJUNA		
4	REVISED	12-11-82	DEJUNA		
5	REVISED	12-11-82	DEJUNA		
6	REVISED	12-11-82	DEJUNA		
7	REVISED	12-11-82	DEJUNA		
8	REVISED	12-11-82	DEJUNA		

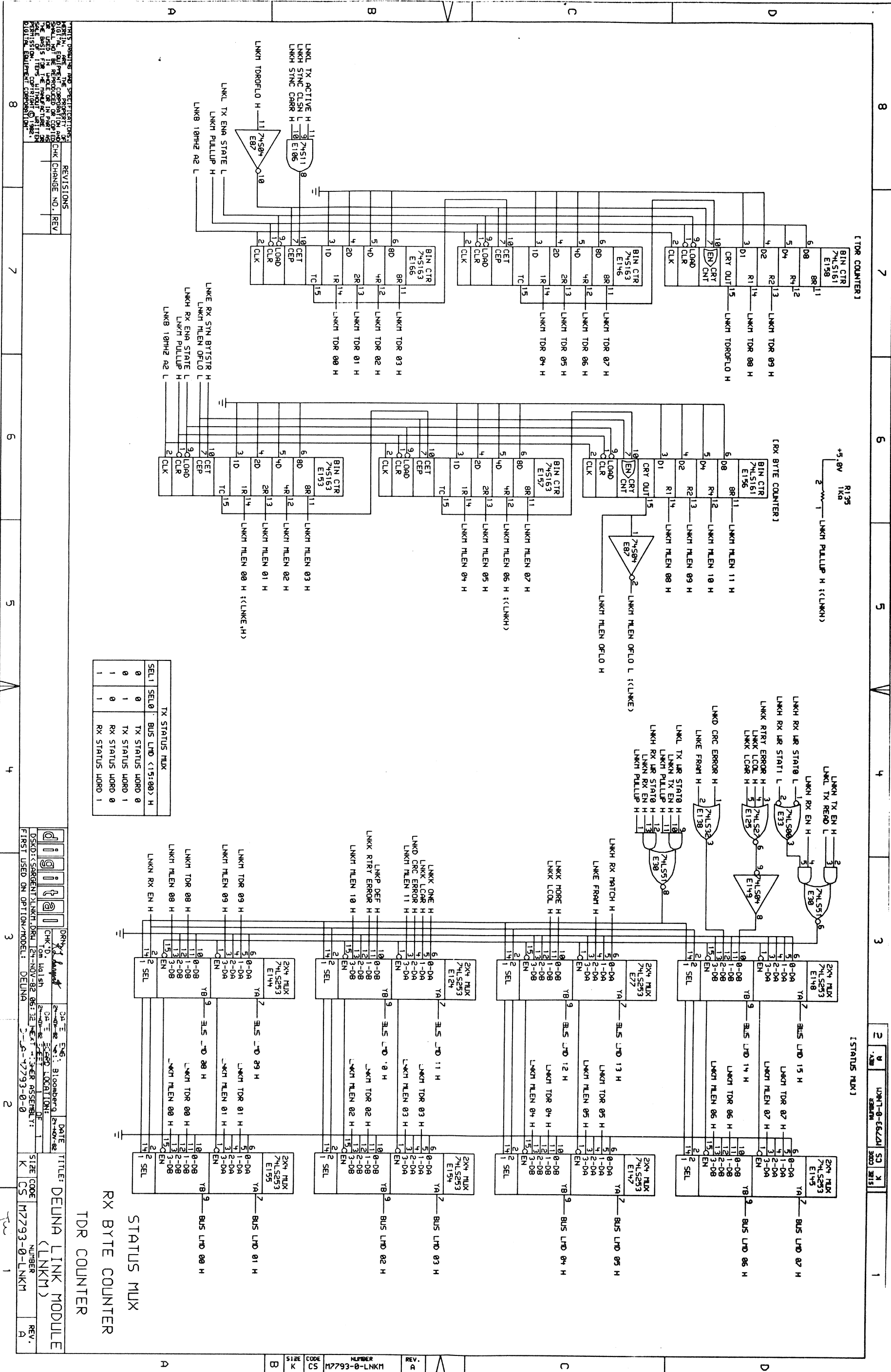
REV.	DESCRIPTION	DATE	BY	CHKD	APP'D
1	INITIAL	12-11-82	DEJUNA		
2	REVISED	12-11-82	DEJUNA		
3	REVISED	12-11-82	DEJUNA		
4	REVISED	12-11-82	DEJUNA		
5	REVISED	12-11-82	DEJUNA		
6	REVISED	12-11-82	DEJUNA		
7	REVISED	12-11-82	DEJUNA		
8	REVISED	12-11-82	DEJUNA		



REV.	DESCRIPTION	DATE	BY	CHK'D	DATE	BY
1	INITIAL	12/15/83	DEUNA	DEUNA		

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DATE: 12/15/83
 BY: DEUNA
 CHECKED: DEUNA
 TITLE: DEUNA LINK MODULE (LNKK)
 SIZE CODE: K
 NUMBER: M7793-0-LNKK
 REV: B



REVISIONS

REV.	NO.	DESCRIPTION
1	1	INITIAL DESIGN
2	2	DESIGN CHANGE
3	3	DESIGN CHANGE
4	4	DESIGN CHANGE
5	5	DESIGN CHANGE
6	6	DESIGN CHANGE
7	7	DESIGN CHANGE
8	8	DESIGN CHANGE

TX STATUS MUX

SEL1	SEL0	BUS LND <15:00> H
0	0	TX STATUS WORD 0
0	1	TX STATUS WORD 1
1	0	RX STATUS WORD 0
1	1	RX STATUS WORD 1

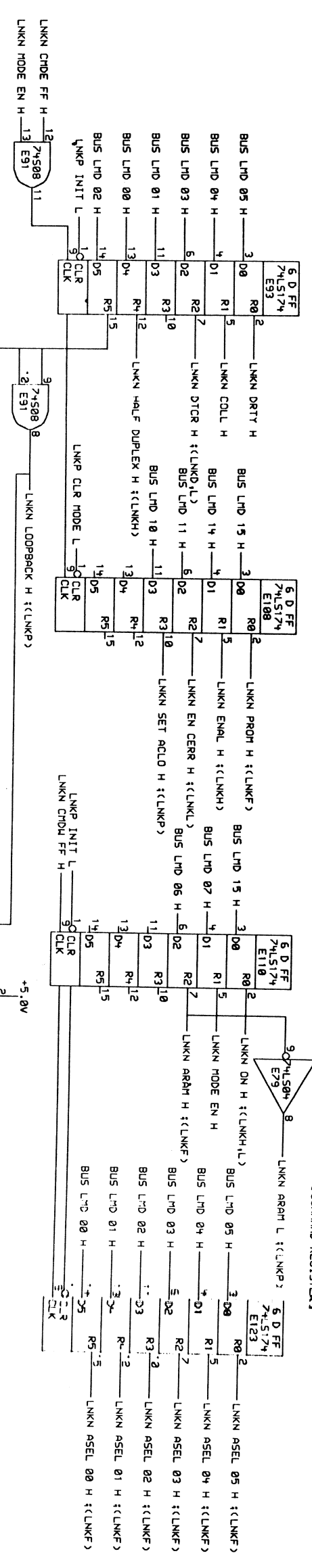
STATUS MUX

SEL	BUS LND
0	00 H
1	01 H
2	02 H
3	03 H
4	04 H
5	05 H
6	06 H
7	07 H
8	08 H
9	09 H
10	0A H
11	0B H
12	0C H
13	0D H
14	0E H
15	0F H

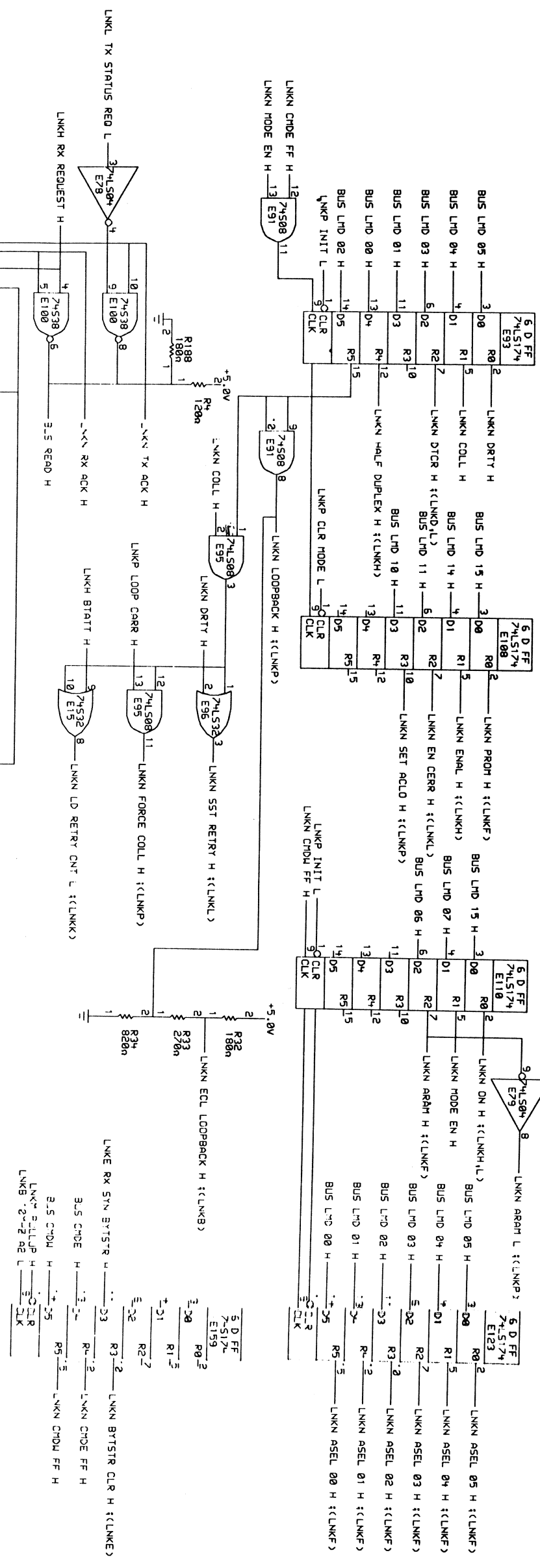
DEUNA LINK MODULE
(LNKM)
RX BYTE COUNTER
TDR COUNTER

REV.	NO.	DESCRIPTION
1	1	INITIAL DESIGN
2	2	DESIGN CHANGE
3	3	DESIGN CHANGE
4	4	DESIGN CHANGE
5	5	DESIGN CHANGE
6	6	DESIGN CHANGE
7	7	DESIGN CHANGE
8	8	DESIGN CHANGE

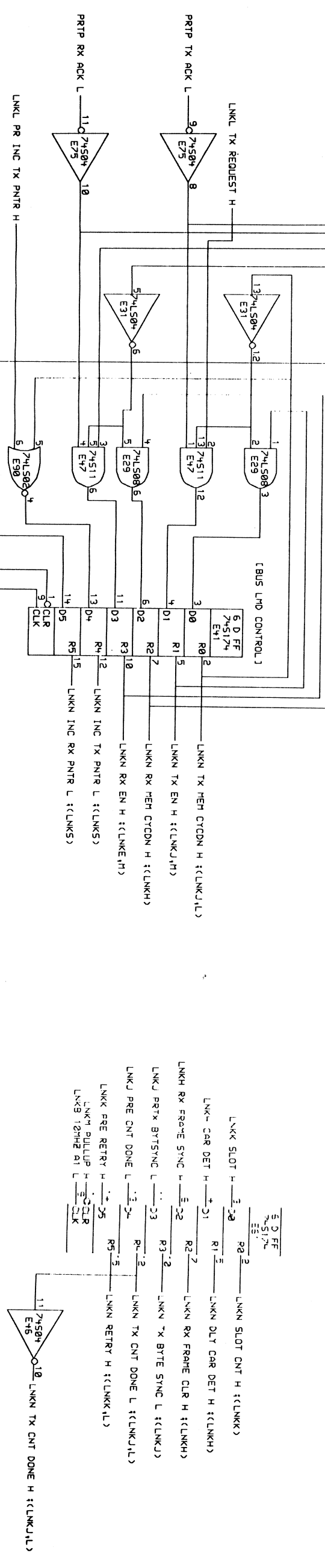
[MODE REGISTER]



[COMMAND REGISTER]



LNKX RX SYN BYTSTR L H ((LNKX))
 3.5 CHDE H H ((LNKX))
 3.5 CHDU H H ((LNKX))
 LNKX PULLUP H H ((LNKX))
 LNKX 10MHz A1 L ((LNKX))



COMMAND REGISTER
 MODE REGISTER
 BUS LMD CONTROL

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REV.	NO.	DATE	ENG.	CHK'D	DATE	ENG.	TITLE:
B	1	01/11/2008	Tom Lalish	Tom Lalish	01/11/2008	Tom Lalish	DEUNA LINK MODULE (LNKN)

FIRST USED ON OPTION/MODEL: DEUNA C-UP-17293-0-0

REV.	NO.	DATE	ENG.	CHK'D	DATE	ENG.	TITLE:
B	1	01/11/2008	Tom Lalish	Tom Lalish	01/11/2008	Tom Lalish	DEUNA LINK MODULE (LNKN)

REV.	NO.	DATE	ENG.	CHK'D	DATE	ENG.	TITLE:
B	1	01/11/2008	Tom Lalish	Tom Lalish	01/11/2008	Tom Lalish	DEUNA LINK MODULE (LNKN)

REV.	NO.	DATE	ENG.	CHK'D	DATE	ENG.	TITLE:
B	1	01/11/2008	Tom Lalish	Tom Lalish	01/11/2008	Tom Lalish	DEUNA LINK MODULE (LNKN)

REV.	NO.	DATE	ENG.	CHK'D	DATE	ENG.	TITLE:
B	1	01/11/2008	Tom Lalish	Tom Lalish	01/11/2008	Tom Lalish	DEUNA LINK MODULE (LNKN)

REV.	NO.	DATE	ENG.	CHK'D	DATE	ENG.	TITLE:
B	1	01/11/2008	Tom Lalish	Tom Lalish	01/11/2008	Tom Lalish	DEUNA LINK MODULE (LNKN)

REV. C

NUMBER M7793-0-LNKR

SIZE CODE CS K

REV. C

NUMBER M7793-0-LNKR

SIZE CODE CS K

REV. C

NUMBER M7793-0-LNKR

SIZE CODE CS K

REV. C

NUMBER M7793-0-LNKR

SIZE CODE CS K

REV. C

NUMBER M7793-0-LNKR

SIZE CODE CS K

REV. C

NUMBER M7793-0-LNKR

SIZE CODE CS K

REV. C

NUMBER M7793-0-LNKR

SIZE CODE CS K

REV. C

NUMBER M7793-0-LNKR

SIZE CODE CS K

REV. C

NUMBER M7793-0-LNKR

SIZE CODE CS K

REV. C

TITLE: DEUNA LINK MODULE
(LNKR)

DATE: 10/1/83
DESIGNED BY: J. Bloembergen

ORIGIN: 1118
CHK'D: Tom Walsh

OSK: SARGENT & Lundy
FIRST USED ON OPTION/MODEL: DEUNA

CHK. NO. 1

REV. C

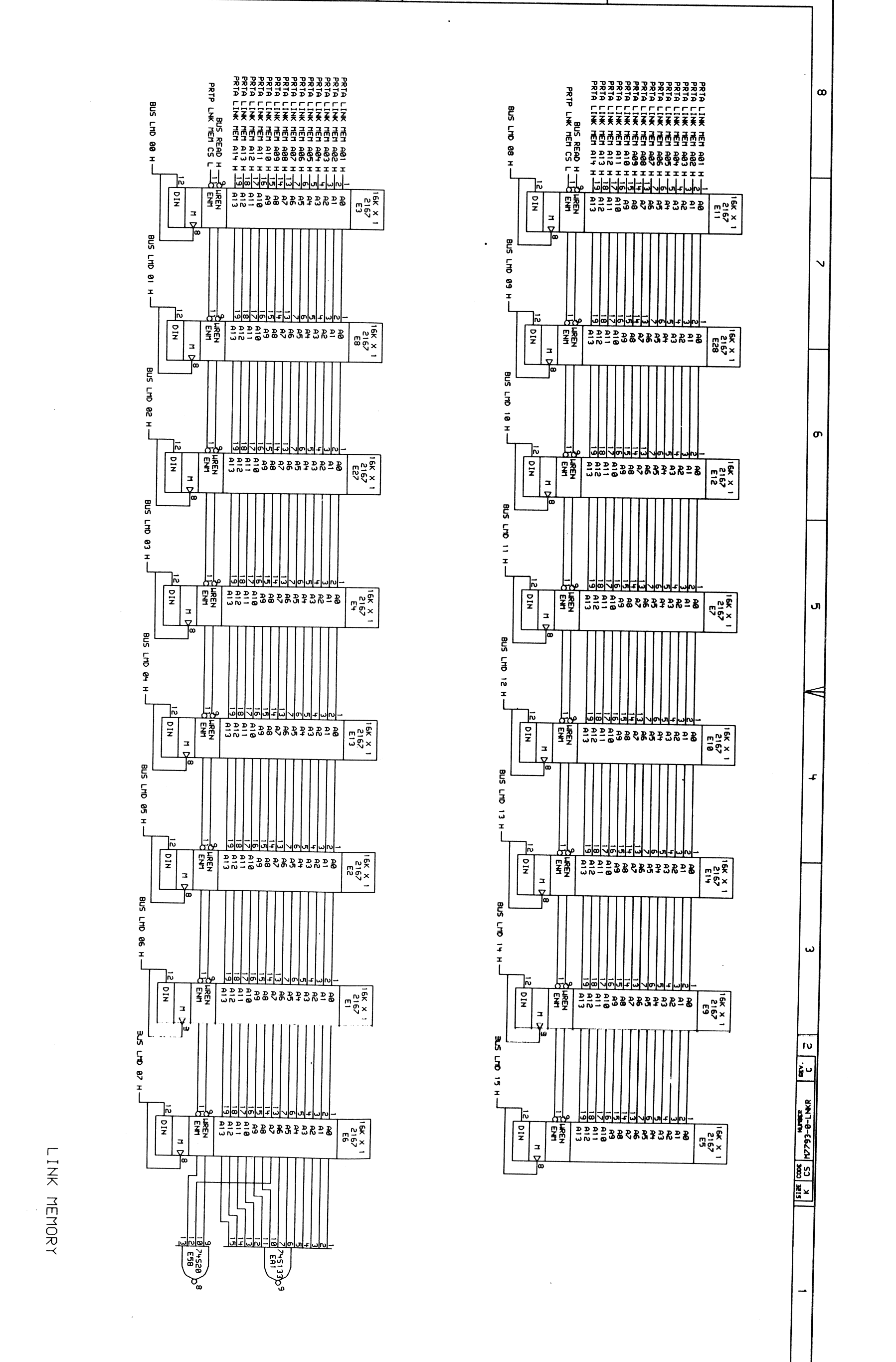
REV. C

REV. C

REV. C

REV. C

LINK MEMORY



REV. C

REV. C

REV. C

REV. C

REV. C

REV. C

REV. C

REV. C

REV. C

REV. C

REV. C

REV. C

REV. C

REV. C

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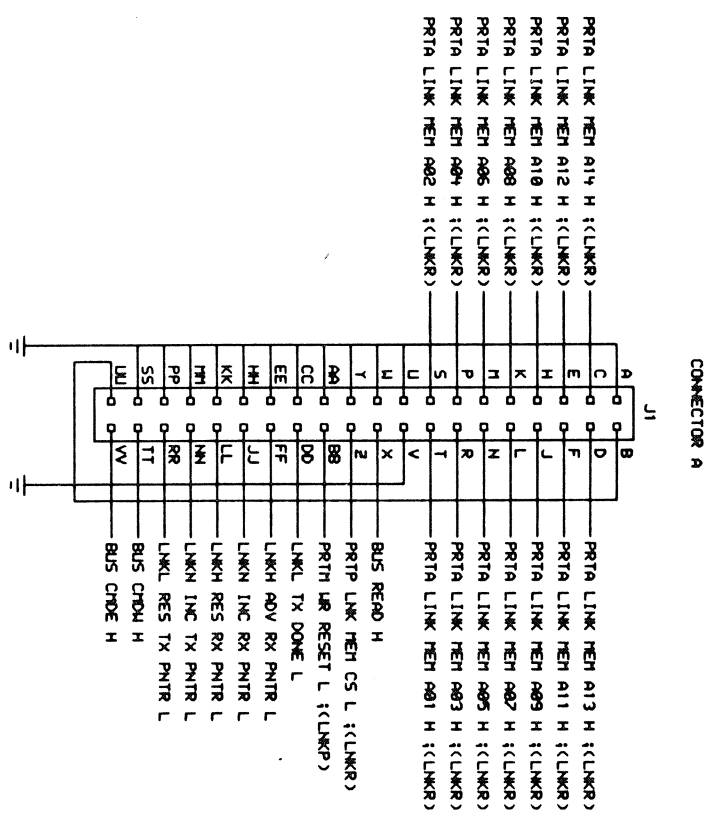
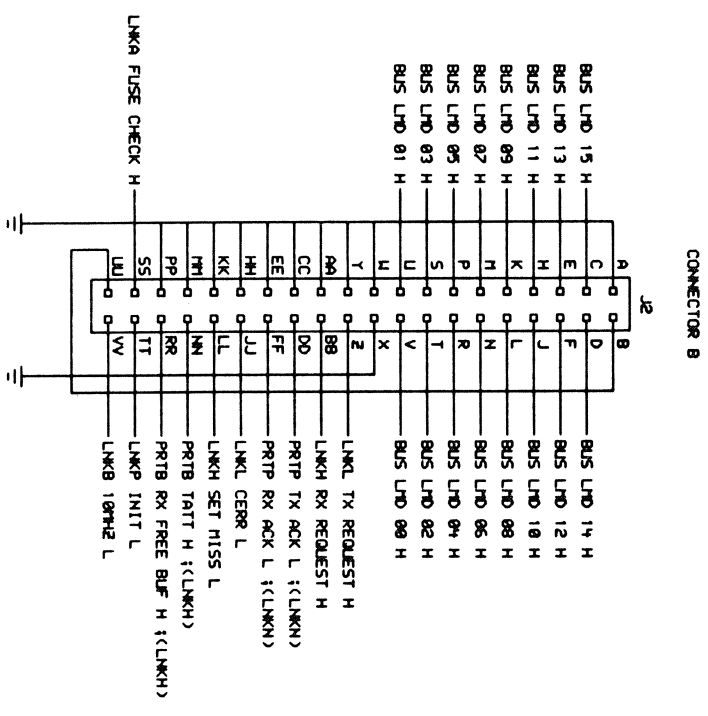
REV. C

REV. C

REV. C

REV. C

REV. C



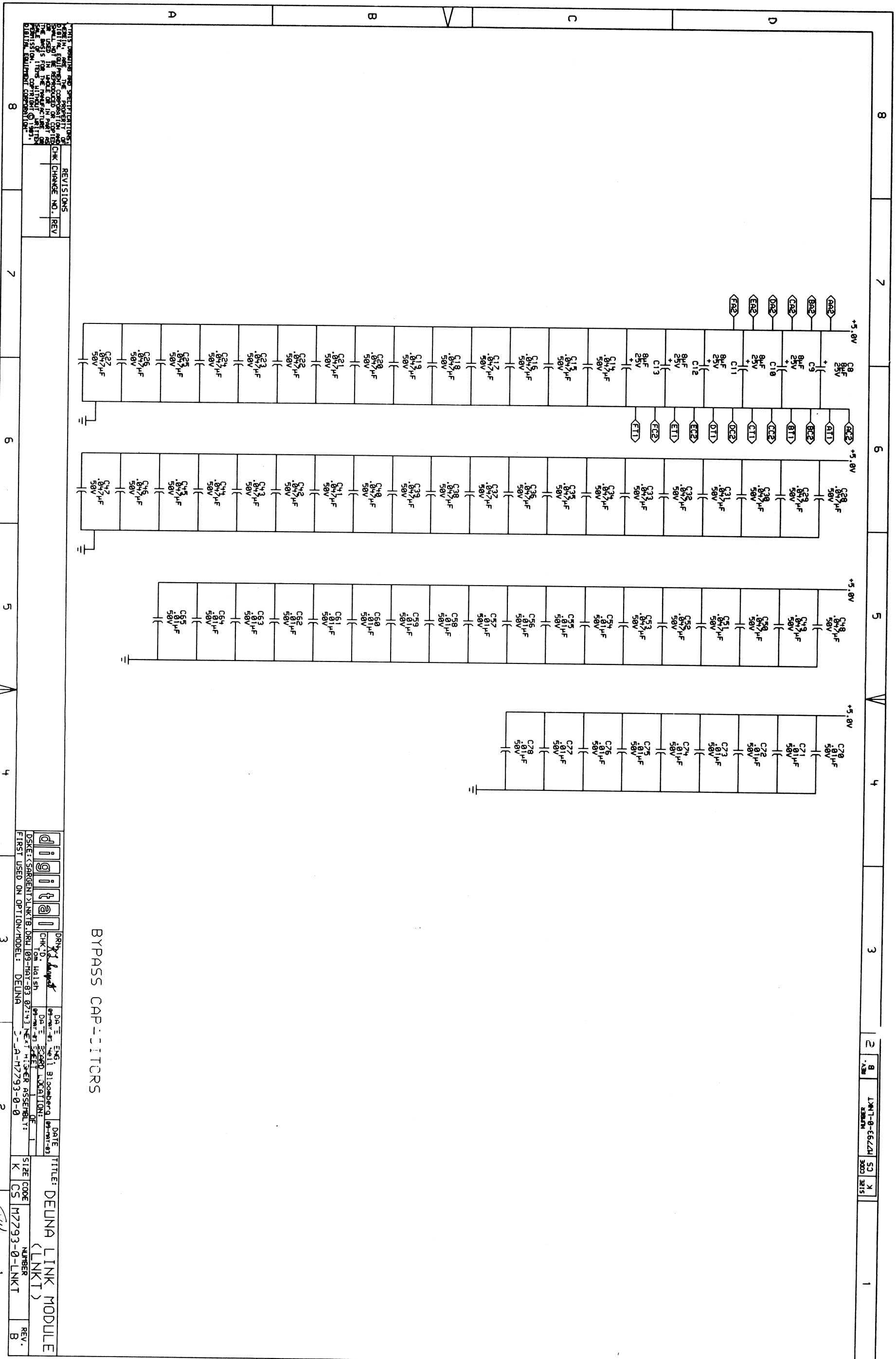
LINK MODULE FORWARD REFERENCE	PORT CS
LNKL TX REQUEST H	PRTP
LNKH RX REQUEST H	PRTP
LNKL CERR L	PRTB
LNKH SET MISS L	PRTB
LNKP INIT L	PRTB
BUS READ H	PRTB,C,E,H,N,P
BUS LND <15:80> H	PRTB,C
LNKH 10MHz L	PRTA,C,N,P
LNKL TX DONE L	PRTB
BUS CHDQ H	PRTB
BUS CHDQ H	PRTB
LNKH ADV RX PNTR L	PRTB
LNKH INC RX PNTR L	PRTB
LNKH RES RX PNTR L	PRTB
LNKH INC TX PNTR L	PRTB
LNKL RES TX PNTR L	PRTB

PORT/LINK INTERCONNECT CABLE CONNECTORS

REVISIONS
 CHK CHANGE NO. REV
 1 1

DATE	ENG	DATE
12-15-80	1	12-15-80
DESIGNED BY	DRN	DATE
12-15-80	1	12-15-80
CHECKED BY	CHK	DATE
12-15-80	1	12-15-80

DEUNA LINK MODULE
 (LNKS)
 TITLE: DEUNA LINK MODULE
 NUMBER: 17293-0-LNKS
 REV. A

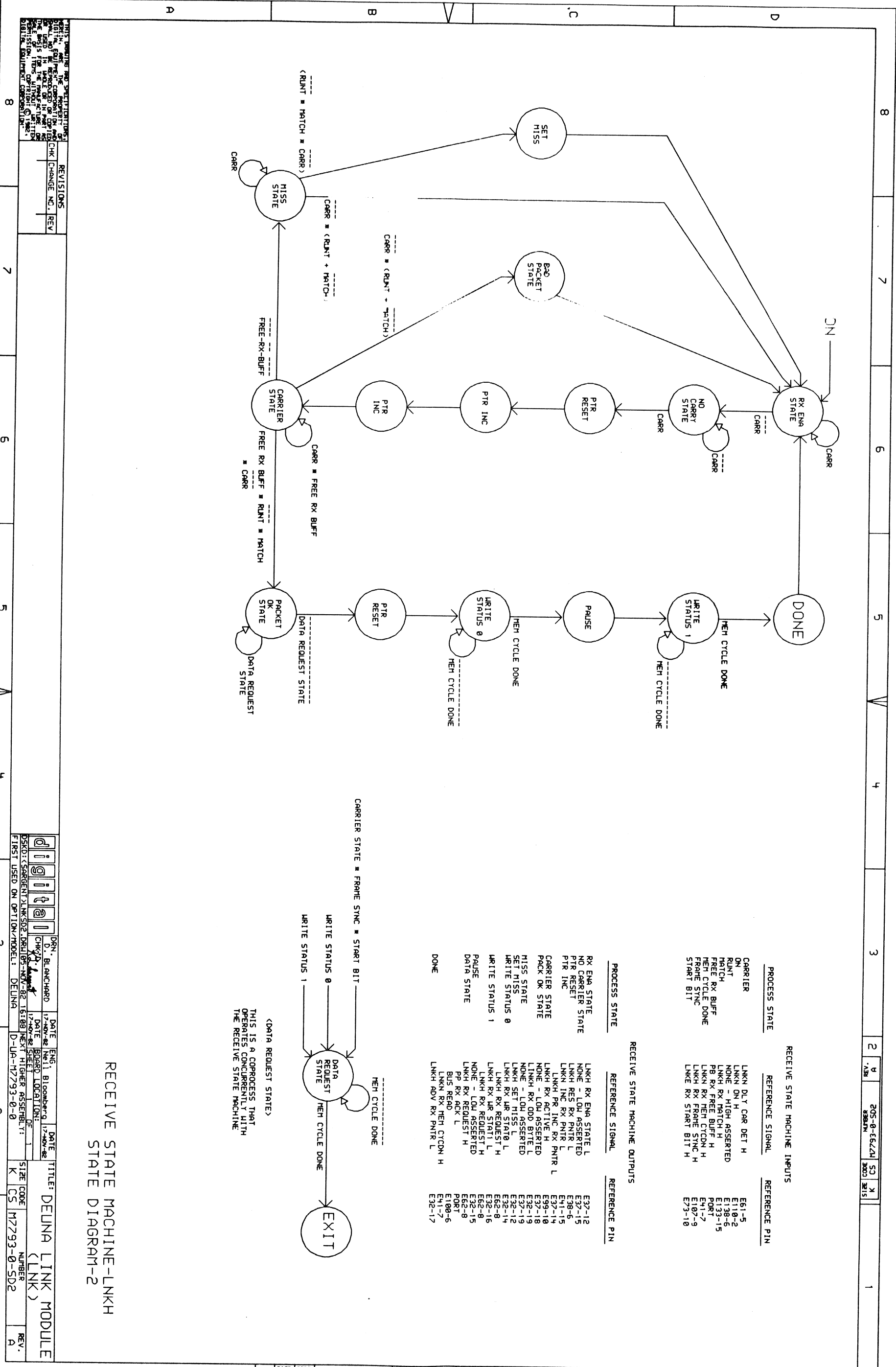


BYPASS CAPACITORS

NOTE: THE MANUFACTURER'S PART NUMBER, QUANTITY, AND VALUE SHOULD BE CHECKED AGAINST THE PART LIST FOR THE MANUFACTURING OF THIS ASSEMBLY. THE PARTS LIST IS LOCATED IN THE DRAWING OF THE ASSEMBLY. THE PARTS LIST IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PARTS LIST IS THE AUTHORITY FOR THE PARTS TO BE USED IN THE ASSEMBLY.

REV.	NO.	DESCRIPTION
1	1	INITIAL ISSUE
2	2	REVISIONS
3	3	REVISIONS
4	4	REVISIONS
5	5	REVISIONS
6	6	REVISIONS
7	7	REVISIONS
8	8	REVISIONS

DRY	DATE	TITLE	NUMBER	REV.
CHK'D. MALISH	DATE	DEUNA (LNKT)	17793-0-LNKT	B
DESIGNER	DATE	DEUNA (LNKT)	17793-0-LNKT	B
DRY	DATE	DEUNA (LNKT)	17793-0-LNKT	B
DRY	DATE	DEUNA (LNKT)	17793-0-LNKT	B

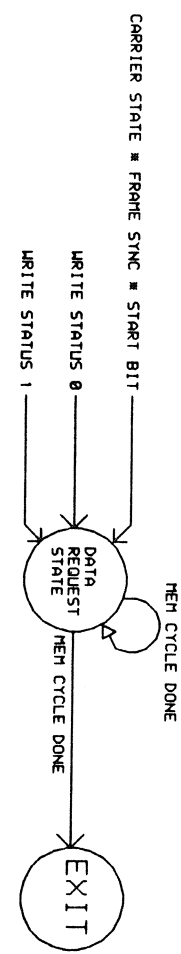


RECEIVE STATE MACHINE INPUTS

PROCESS STATE	REFERENCE SIGNAL	REFERENCE PIN
CARRIER	LNKN DLY CAR DET H	E61-5
DN	LNKN ON H	E118-2
RUNT	NONE - HIGH ASSERTED	E138-6
MATCH	LNKN RX MATCH H	E133-15
FREE RX BUF	PB RX FREE BUF H	PORT
HEH CYCLE DONE	LNKN RX HEH CYDN H	E41-7
FRAME SYNC	LNKN RX FRAME SYNC H	E107-9
START BIT	LNKE RX START BIT H	E73-10

RECEIVE STATE MACHINE OUTPUTS

PROCESS STATE	REFERENCE SIGNAL	REFERENCE PIN
RX ENA STATE	LNKH RX ENA STATE L	E37-12
NO CARRIER STATE	NONE - LOW ASSERTED	E37-15
PTR RESET	LNKH RES RX PNTR L	E38-6
PTR INC	LNKH INC RX PNTR L	E41-15
CARRIER STATE	LNKH PR INC RX PNTR L	E37-14
PACK OK STATE	NONE - LOW ASSERTED	E99-10
MISS STATE	LNKH RX LDD BYTE L	E37-18
SET MISS	NONE - HIGH ASSERTED	E32-19
WRITE STATUS 0	LNKH SET MISS T0 L	E32-12
WRITE STATUS 1	LNKH RX REQUEST H	E32-14
PAUSE	LNKH RX UP STATE L	E32-16
DATA STATE	NONE - LOW ASSERTED	E32-16
	LNKH RX REQUEST H	E32-15
	LNKH RX REQUEST L	E32-15
	PP RX ACK L	E32-8
	BUS RECD L	E100-6
	LNKH ADV RX PNTR L	E32-17



<DATA REQUEST STATE>
 THIS IS A COPROCESS THAT
 OPERATES CONCURRENTLY WITH
 THE RECEIVE STATE MACHINE.

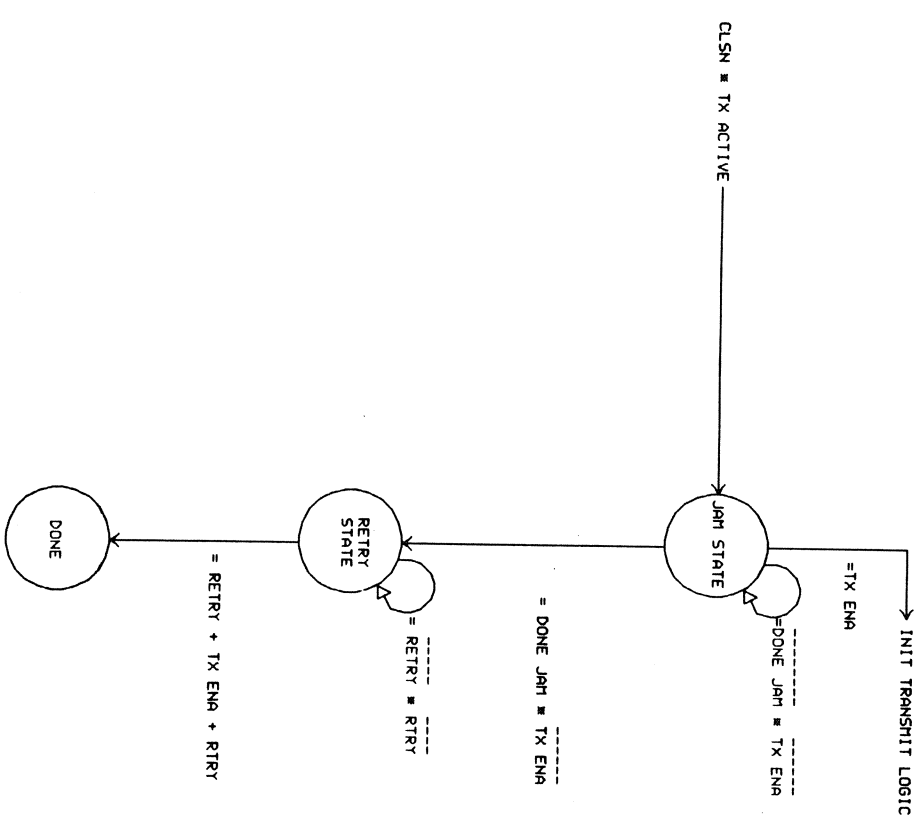
RECEIVE STATE MACHINE-LINKH
 STATE DIAGRAM-2

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REVISIONS

CHK	CHANGE NO.	REV

DRN	D. BLANCHARD	DATE	17-NOV-82	ENG	Bloomberga	DATE	17-NOV-82	TITLE	DEUNA LINK MODULE
CHKD		DATE		BOARD	LOCATION	DATE		NUMBER	(LNK)
DESIGN	SARGENT & Lundy	DATE	05-NOV-82	NEXT	HIGHER ASSEMBLY	DATE		SIZE	CODE
FIRST USED ON OPTION/MODEL	DEUNA		D-UA-17793-0-0					K	CS
								M7793-0-SD2	REV.
									A



PROCESS STATE
 TX ENA
 CJSN
 DONE JAM
 RETRY
 RTRY

COLLISION BACK OFF STATE INPUTS

REFERENCE SIGNAL
 LNKL TX ENA STATE H
 LNKH SYNC CJSN H
 LNKK COLLISION JAM H
 LNKR RETRY H
 LNKS RTRY H

REFERENCE PIN
 E50-6
 E81-12
 E80-13
 E81-15
 E81-15

COLLISION BACK OFF STATE OUTPUTS

PROCESS STATE
 RETRY STATE
 JAM STATE

REFERENCE SIGNAL
 LNKR RETRY STATE L
 LNKK JAM STATE L
 LNKS RETRY INIT L

REFERENCE PIN
 E50-18
 E50-12
 E50-19

DEFINITIONS

RTRY: FAILURE TO TRANSMIT IN 16 ATTEMPTS DUE TO COLLISION

RETRY: PROPER NUMBER OF SLOTTIMES HAS ELAPSED. TIME TO RETRANSMIT

DONE JAM: TELLS JAM STATE 32 BITS HAVE ELAPSED STOP JAMMING

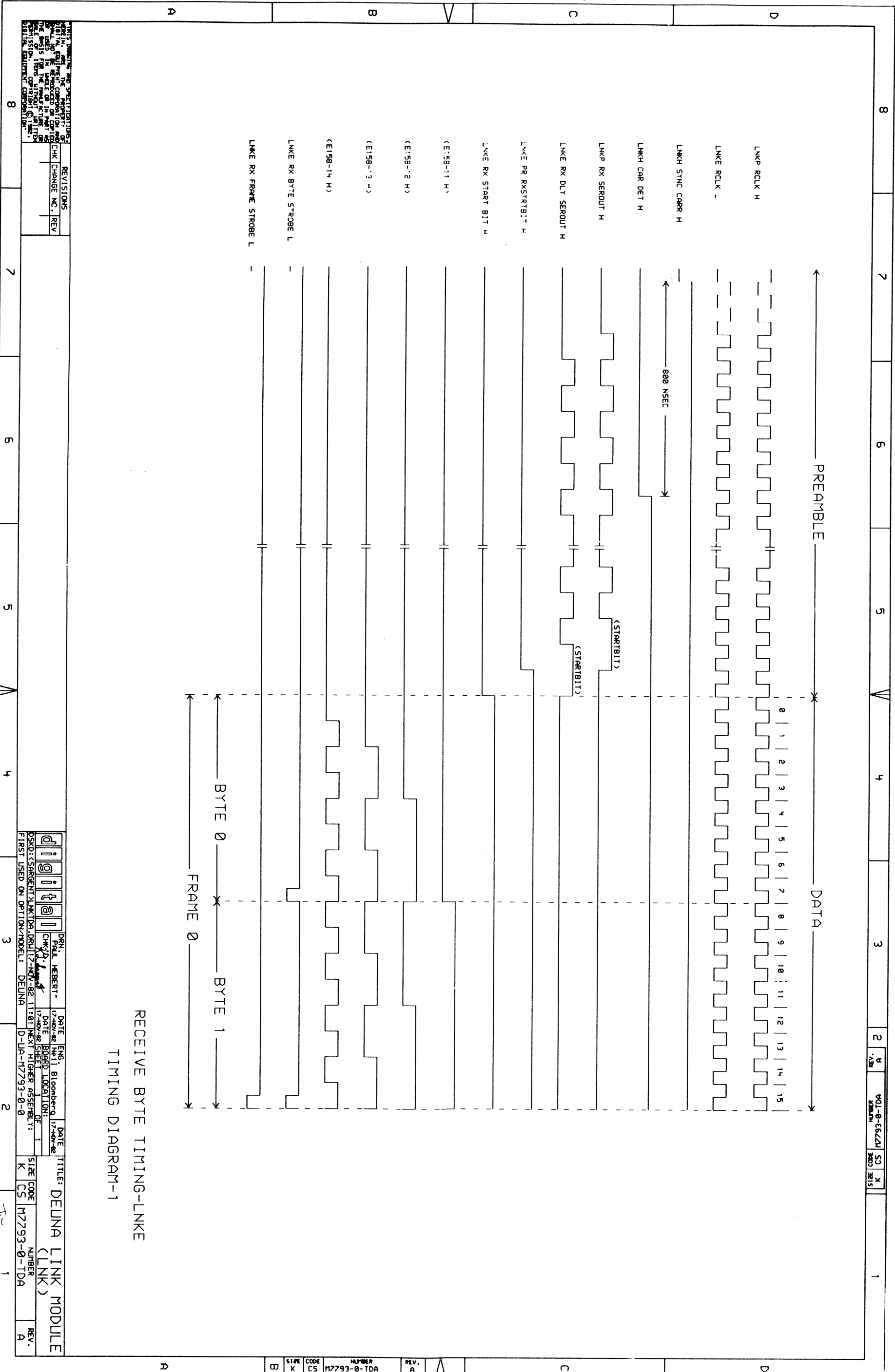
COLLISION BACK OFF STATE-LNKK
 STATE DIAGRAM-4

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REV.	NO.	DATE	BY	CHK	DESCRIPTION
1	1	17-NOV-82	C. GIROUARD		INITIAL DESIGN
2	2	17-NOV-82	C. GIROUARD		REVISIONS
3	3	17-NOV-82	C. GIROUARD		REVISIONS
4	4	17-NOV-82	C. GIROUARD		REVISIONS
5	5	17-NOV-82	C. GIROUARD		REVISIONS
6	6	17-NOV-82	C. GIROUARD		REVISIONS
7	7	17-NOV-82	C. GIROUARD		REVISIONS
8	8	17-NOV-82	C. GIROUARD		REVISIONS

DRN: C. GIROUARD
 DATE: 17-NOV-82
 ENG: BLOOMBERG
 BOARD LOCATION: 17-NOV-82 SHEET 1
 FIRST USED ON OPTION/MODEL: DEUNA D-LA-172793-0-0

TITLE: DEUNA LINK MODULE (LNK)
 SIZE CODE: K
 CS: M72793-0-5D4
 NUMBER: 1
 REV: A



RECEIVE BYTE TIMING-LNKE
TIMING DIAGRAM-1

REVISIONS

CHK	CHANGE NO.	REV

REV. A

DATE	ENG.	DESIGNED	LOCATED	DATE	ENG.	DESIGNED	LOCATED
12-10-82	HEBERT			12-10-82	HEBERT		

DEUNA LINK MODULE (LNK)

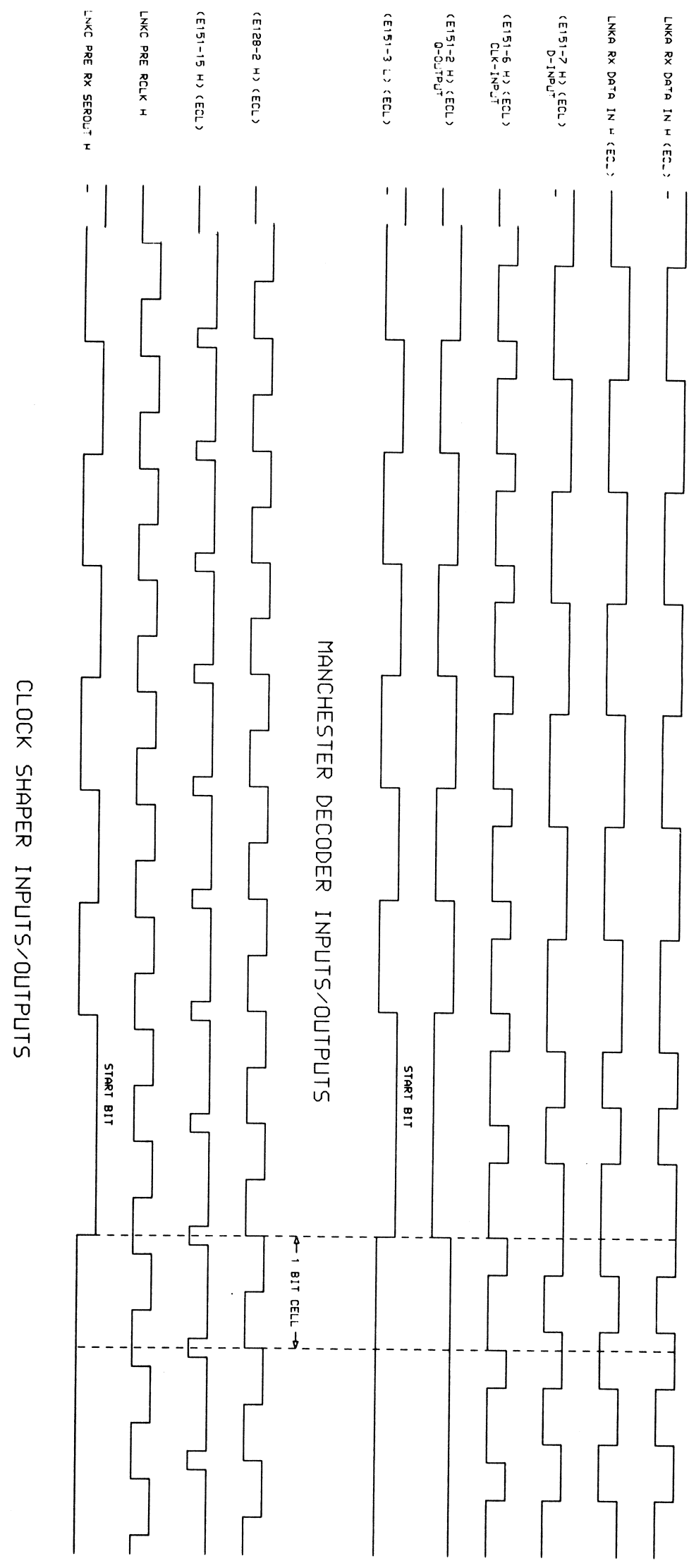
SIZE	CODE	NUMBER	REV.
K	CS	M7793-0-TDA	A

8 7 6 5 4 3 2 1

SIZE CODE NUMBER REV. A K CS M7793-0-TDA

0 1 1 1 0 1 1 1 1 1 0 1 0 1 0

PREAMBLE DATA



RECEIVE DATA DECODE AND CLOCK GENERATOR-LNKC
TIMING DIAGRAM-2

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REV. NO.	DESCRIPTION
1	INITIAL ISSUE
2	REVISIONS
3	CHK CHANGE NO. REV

8	7	6	5	4	3	2	1
---	---	---	---	---	---	---	---

8	7	6	5	4	3	2	1
---	---	---	---	---	---	---	---

8	7	6	5	4	3	2	1
---	---	---	---	---	---	---	---

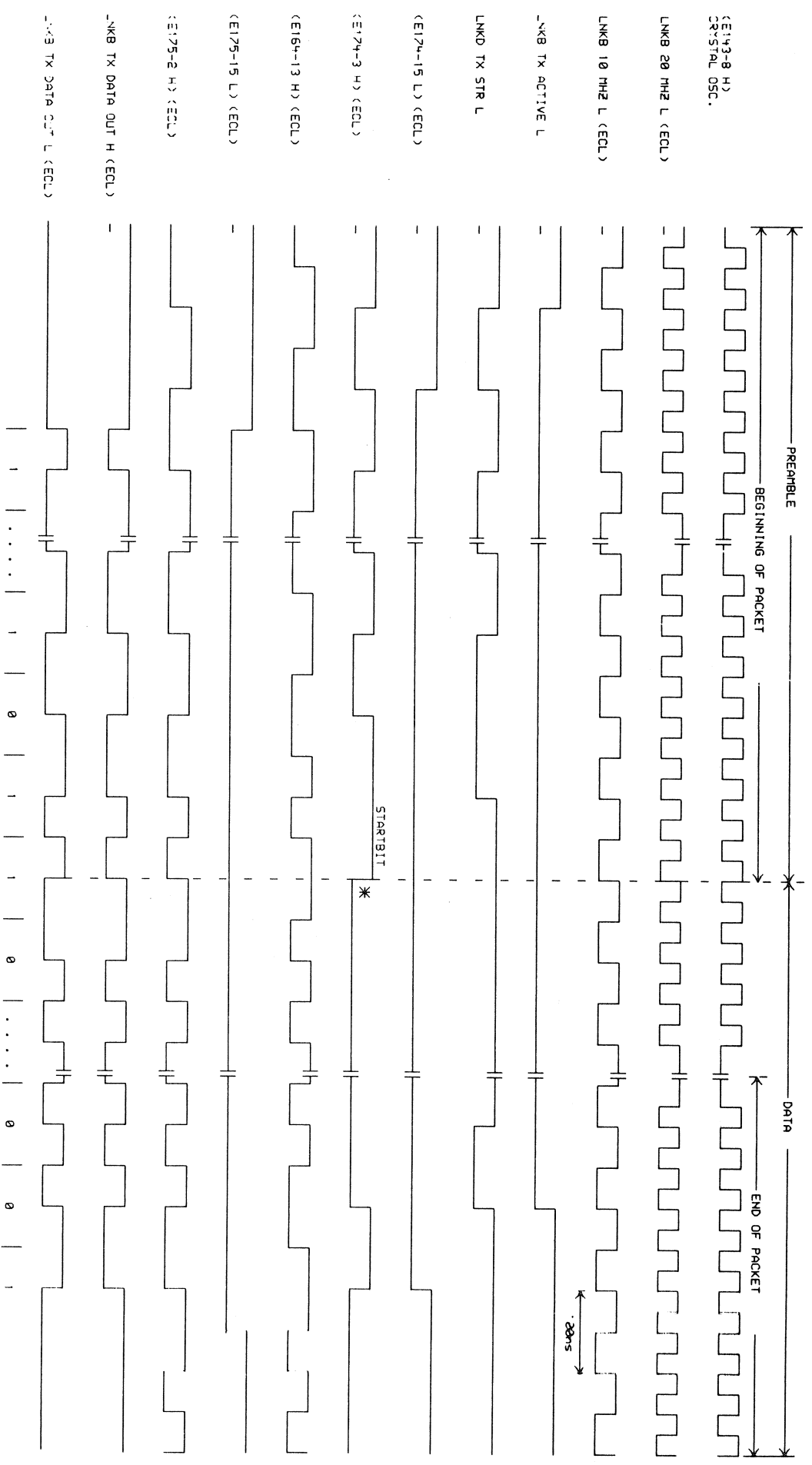
8	7	6	5	4	3	2	1
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8	7	6	5	4	3	2	1
---	---	---	---	---	---	---	---

8	7	6	5	4	3	2	1
---	---	---	---	---	---	---	---

8	7	6	5	4	3	2	1
---	---	---	---	---	---	---	---

8	7	6	5	4	3	2	1
---	---	---	---	---	---	---	---



* DATA INDICATED HERE
 CAN BE ANY PATTERN

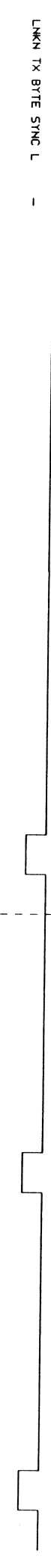
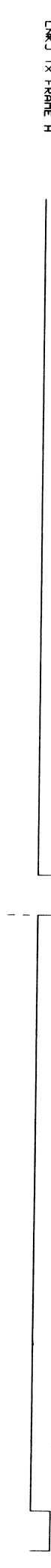
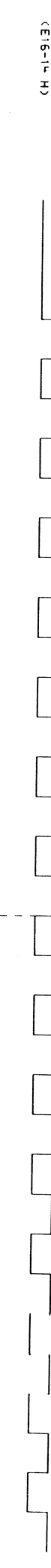
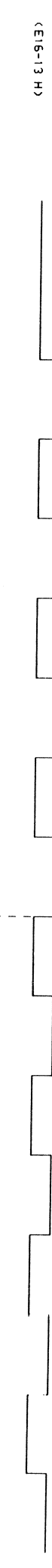
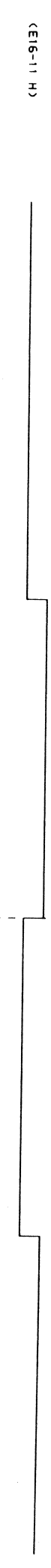
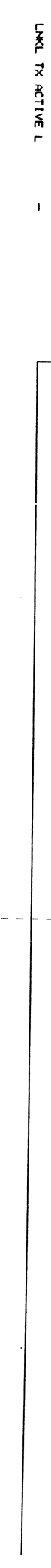
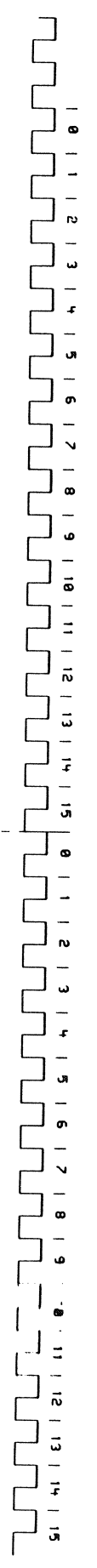
TRANSMIT DATA ENCODE-LINKB
 TIMING DIAGRAM-3

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REV	DESCRIPTION
1	INITIAL

REV	DESCRIPTION
2	REVISED TO ADD STARTBIT

DRN: PAUL HEBERT
 DATE: 11/22/92
 TITLE: DEUNA LINK MODULE (LINK)
 SIZE CODE: K CS M7793-0-TDC
 FIRST USED ON OPTION/MODEL: DEUNA



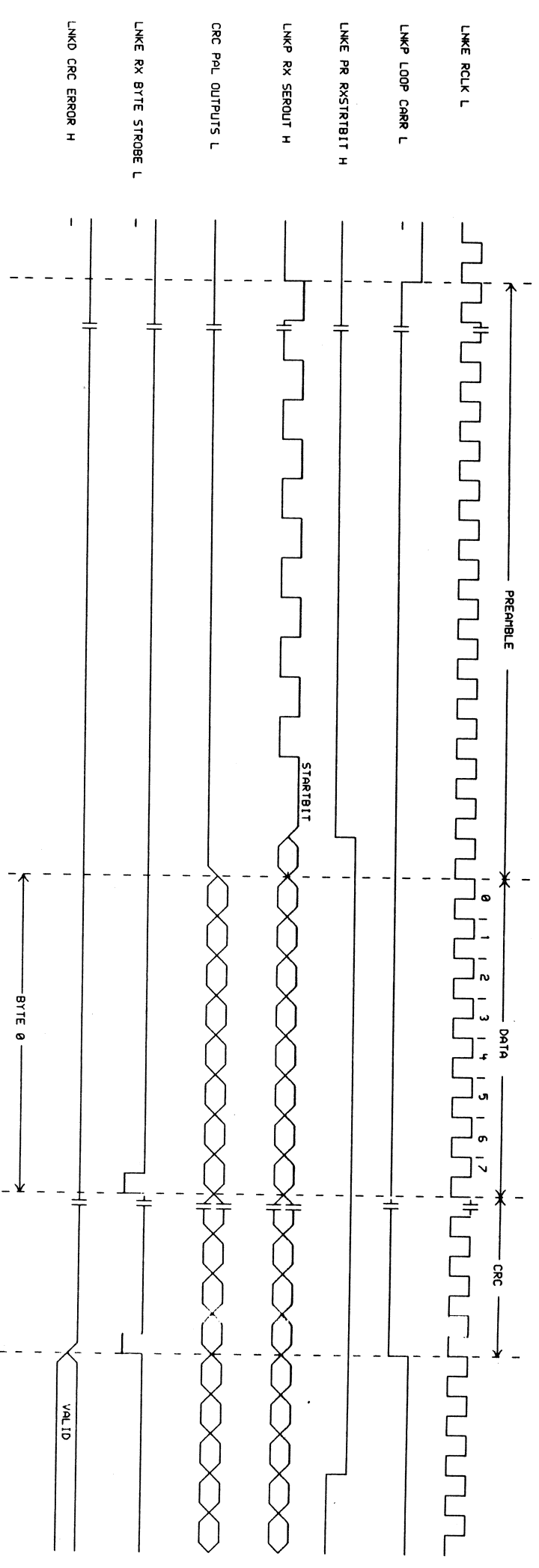
TRANSMIT BYTE/FRAME TIMING--LINKJ
TIMING DIAGRAM-4

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REV.	CHG. NO.	REV.

REV.	CHG. NO.	REV.

ORNL PAUL HERBERT	DATE 17-NOV-82	ENG. SLOAN	DATE 17-NOV-82	TITLE DEUNA LINK MODULE (LINK)	REV. A
CHKD BY J. L. ...	DATE 17-NOV-82	CHKD BY J. L. ...	DATE 17-NOV-82	SLICE CODE K	REV. A
FIRST USED ON OPTION/MODEL: DEUNA		-A-17793-0-0		SLICE CODE CS	REV. A

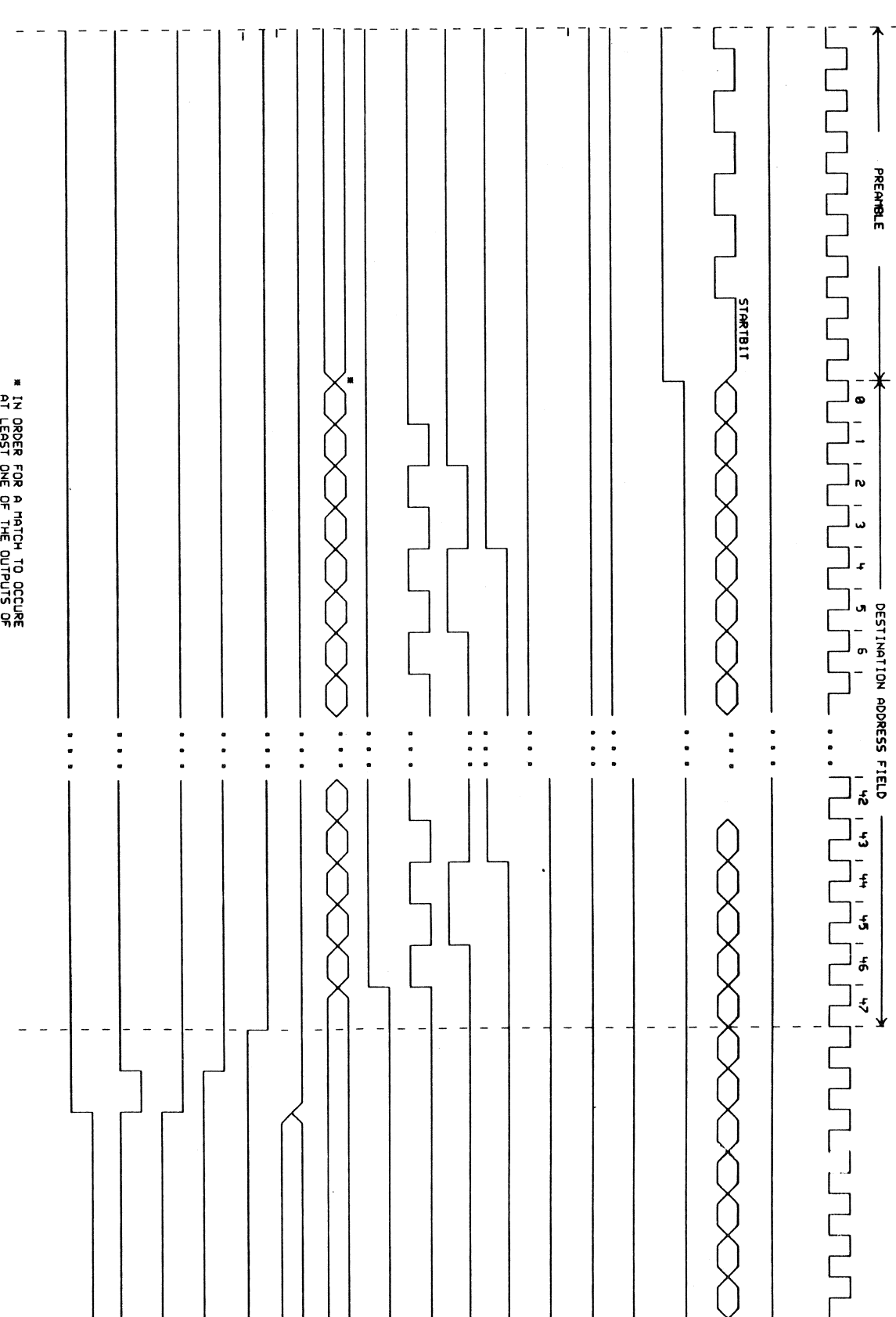


RECEIVE CRC-LINKD
TIMING DIAGRAMS-6

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RECORDING, OR BY ANY INFORMATION
STORAGE AND RETRIEVAL SYSTEM
WITHOUT PERMISSION IN WRITING
FROM DIGITAL EQUIPMENT CORPORATION.

REV. NO.	REV.	DESCRIPTION
1		INITIAL ISSUE
2		REVISION
3		REVISION
4		REVISION
5		REVISION
6		REVISION
7		REVISION
8		REVISION

DRN	PAUL HEBBERT	DATE	19-NOV-82
CHKD	PAUL HEBBERT	DATE	19-NOV-82
DESIGN	PAUL HEBBERT	DATE	19-NOV-82
DATE	19-NOV-82	ENGINEER	PAUL HEBBERT
TITLE	DEUNA LINK MODULE (LNK)		
SIZE	K	CS	M7793-0-TDF
REV.	A	NUMBER	1



* IN ORDER FOR A MATCH TO OCCURE
 AT LEAST ONE OF THE OUTPUTS OF
 THE STATION ADDRESS RANH MUST
 MATCH THE SIGNAL LNKX RX DLY SEROUTI H
 FOR ALL 48 BITS OF THE DESTINATION ADDRESS FIELD.

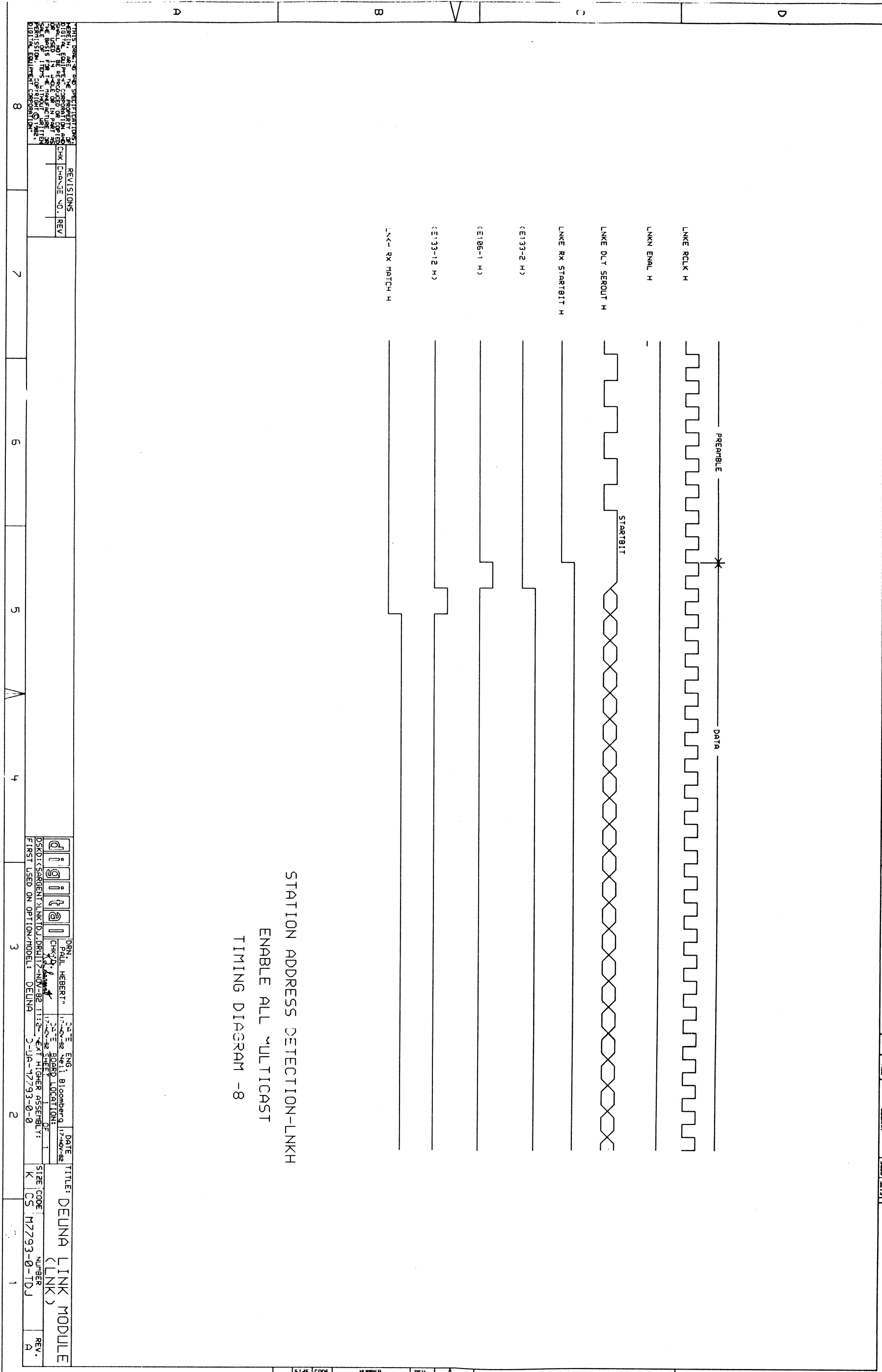
STATION ADDRESS DETECTION-LNKX, LNKH
 48 BIT ADDRESS RECOGNITION
 TIMING DIAGRAM-7

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REV.	CHG. NO.	REV.

DATE	BY	CHK'D BY	DATE	BY	CHK'D BY
12-08-82	ENG. C. GIROUARD	12-08-82	12-08-82	ENG. N. BLOOMBERG	12-08-82
12-08-82	ENG. BOGARD	12-08-82	12-08-82	ENG. BOGARD	12-08-82
12-08-82	ENG. HIGHER	12-08-82	12-08-82	ENG. HIGHER	12-08-82

DRN. C. GIROUARD	DATE 12-08-82	ENG. N. BLOOMBERG	DATE 12-08-82
CHK'D BY 12-08-82	CHK'D BY 12-08-82	CHK'D BY 12-08-82	CHK'D BY 12-08-82
OSKORRONT LNKX/DLYSEROUTI	OSKORRONT LNKX/DLYSEROUTI	OSKORRONT LNKX/DLYSEROUTI	OSKORRONT LNKX/DLYSEROUTI
FIRST USED ON OPTION/MODEL DEUNA	FIRST USED ON OPTION/MODEL DEUNA	FIRST USED ON OPTION/MODEL DEUNA	FIRST USED ON OPTION/MODEL DEUNA
D-UN-172793-0-0	D-UN-172793-0-0	D-UN-172793-0-0	D-UN-172793-0-0
SIZE CODE K	SIZE CODE CS	NUMBER H2793-0-TDH	REV. A

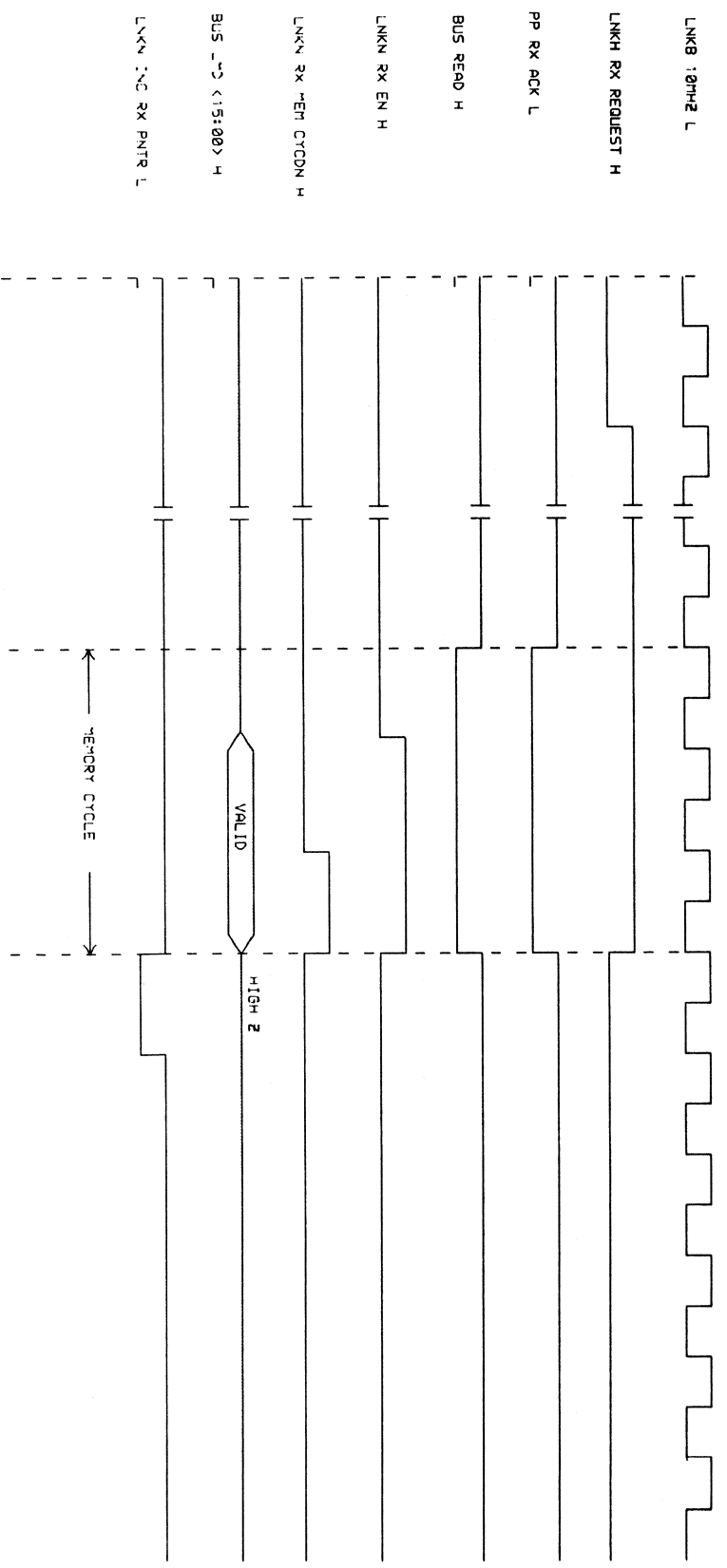


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STORAGE AND RETRIEVAL SYSTEM,
WITHOUT PERMISSION IN WRITING
FROM THE ORIGINAL COPYRIGHT
HOLDER.

REV. NO.	CHG. NO.	REV.

REV. NO.	CHG. NO.	REV.

DRN: HEBERT	ENG: BLOMBERG	DATE: 11-11-82	TITLE: DEUNA LINK MODULE
CHK: J. J. J.	CHK: J. J. J.	CHK: J. J. J.	CHK: J. J. J.
OSK: SARGENT	OSK: SARGENT	OSK: SARGENT	OSK: SARGENT
FIRST USED ON OPTION/MODEL: DEUNA	2-JR-17793-0-0	2	1



RECEIVE LINK MEMORY BUS TRANSFER - LNKE, LNKH, LNKN
TIMING DIAGRAM-9

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REV. NO.	REVISIONS	CHK	CHNGE NO.	REV

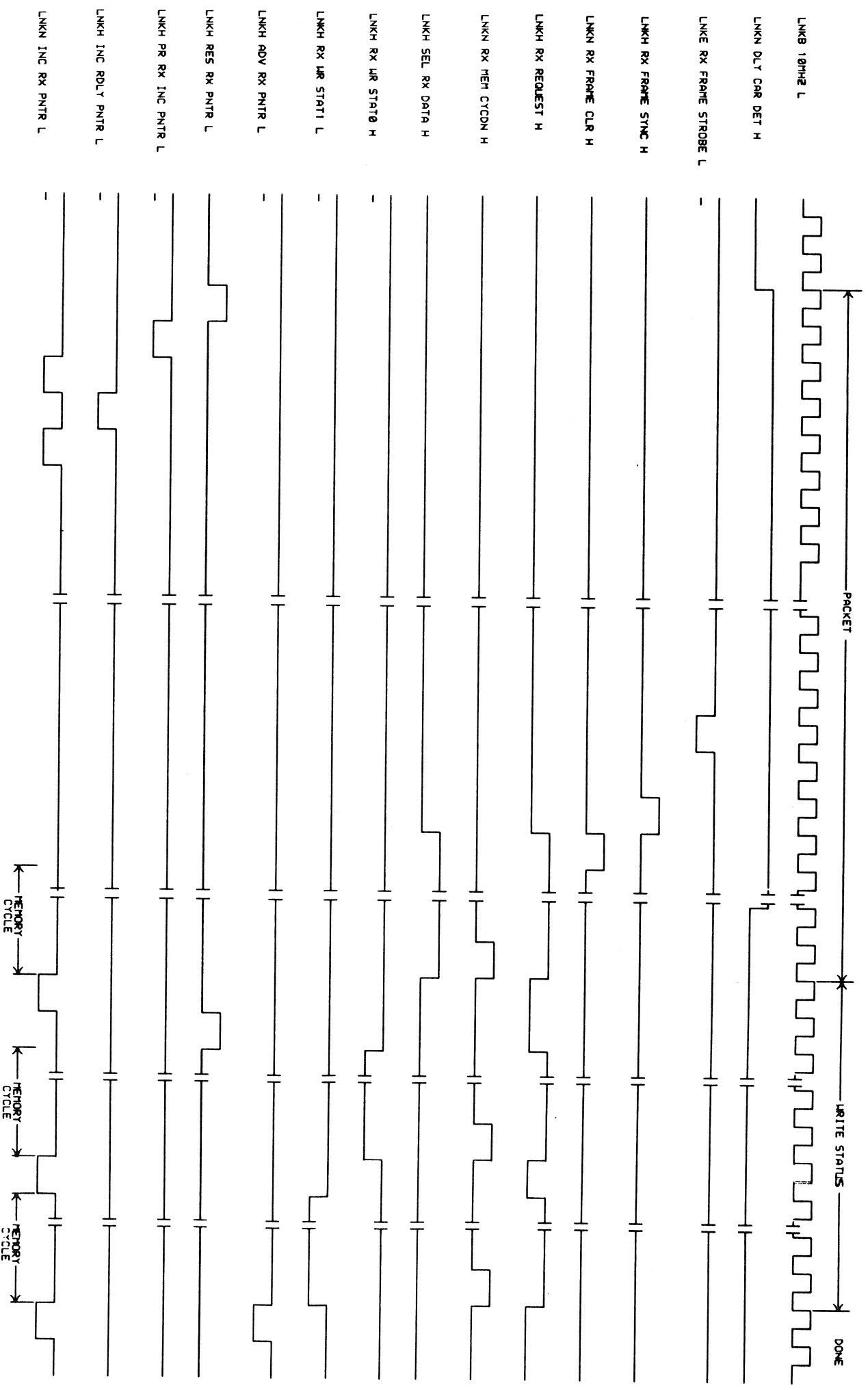
OSKO: (SARRENT) LNKE, LNKH, LNKN, LNKN MC RX PTR L, LNKN RX EN H, LNKN RX MEM CYCND H, LNKH RX REQUEST H, PP RX ACK L, BUS READ H, LNKB 10MHz L

DATE: 11/22/82
 DWN: G. GIROUARD
 CHK: J. L. ...
 DESIGNED BY: ...
 DRAWN BY: ...
 CHECKED BY: ...
 DATE: 11/22/82
 TIME: 11:22 AM
 DEUNA
 FIRST USED ON OPTION/MODEL: DEUNA

REV. A
 NUMBER 17793-0-TDK
 CS K
 CS 17793-0-TDK

TITLE: DEUNA LINK MODULE (LNK)

SIZE CODE: K
 CS 17793-0-TDK



LINK RECEIVE MEMORY BUS TRANSFER-LNKE, LNKH, LNK9
TIMING DIAGRAMS-10

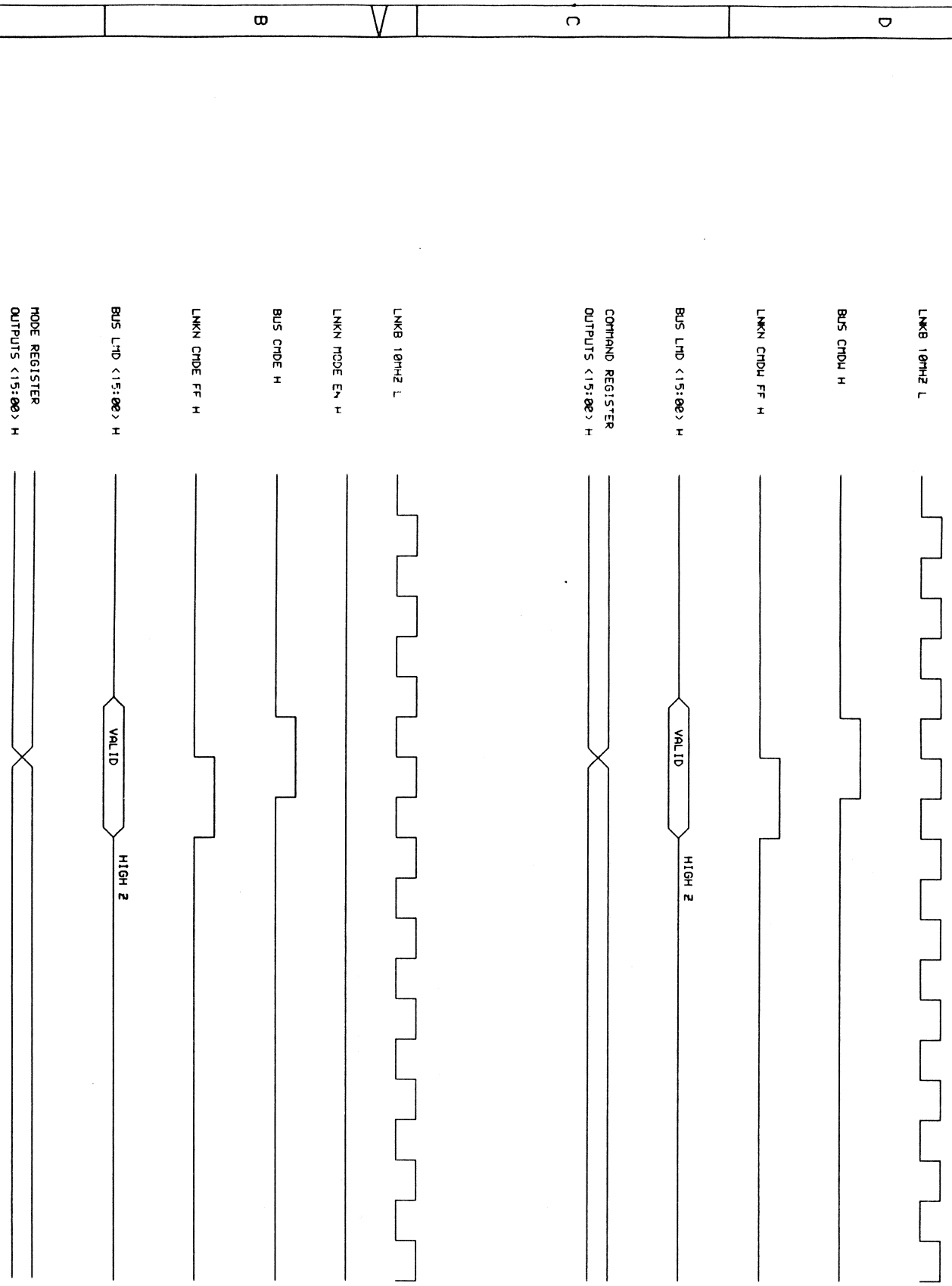
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REV	CHG	NO.	REV

REV	CHG	NO.	REV

ORIN	PAUL HERBERT	DATE	12-NOV-82
CHK'D		DATE	
DESIGN		DATE	
FIRST USED ON	OPTION/MODEL	DEUNA	3-10-17793-0-0

TITLE	DEUNA LINK MODULE
SIZE	CS
NUMBER	M7793-0-TDL
REV.	A

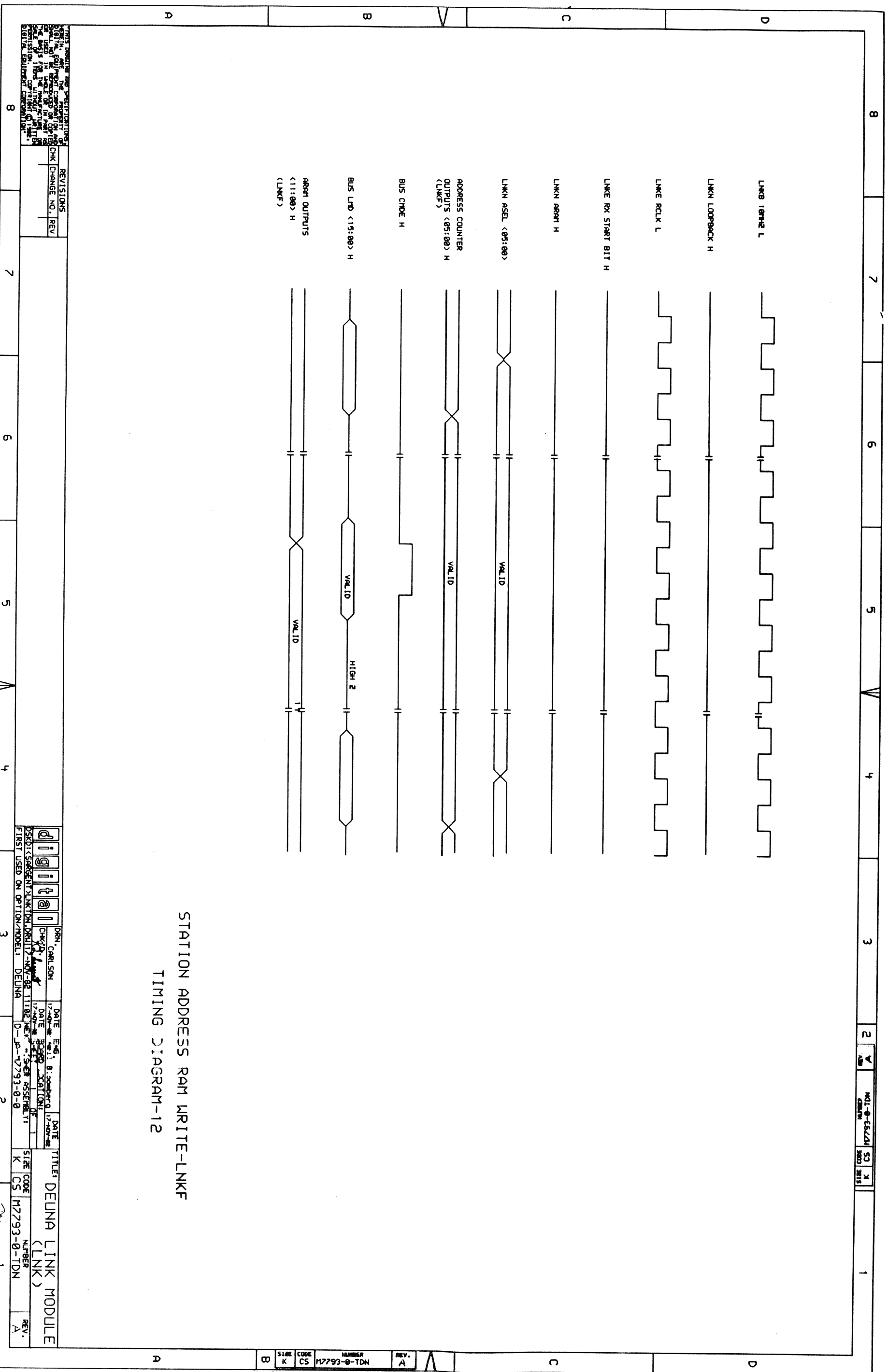


CONTROL REGISTERS-LNKN
TIMING DIAGRAM-11

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REV. NO.	CHK	CHANGE NO.	REV.

DRN. CARLSON	DATE 17-NOV-92	ENG. 1 BLOOMBERG	DATE 17-NOV-92	TITLE: DEUNA LINK MODULE (LNK)
CHK. J. J. J.	DATE 17-NOV-92	BOARD LOCATION: DE	DATE 17-NOV-92	STATE CODE: K
OSKOT (URGENT) LNKN DMT DRN 17-NOV-92	DATE 17-NOV-92	NEXT HIGHER ASSEMBLY: D-UN-17293-0-0	DATE 17-NOV-92	NUMBER: 17293-0-TDM
FIRST USED ON OPTION/MODEL: DEUNA	DATE 17-NOV-92	DATE 17-NOV-92	DATE 17-NOV-92	REV. A



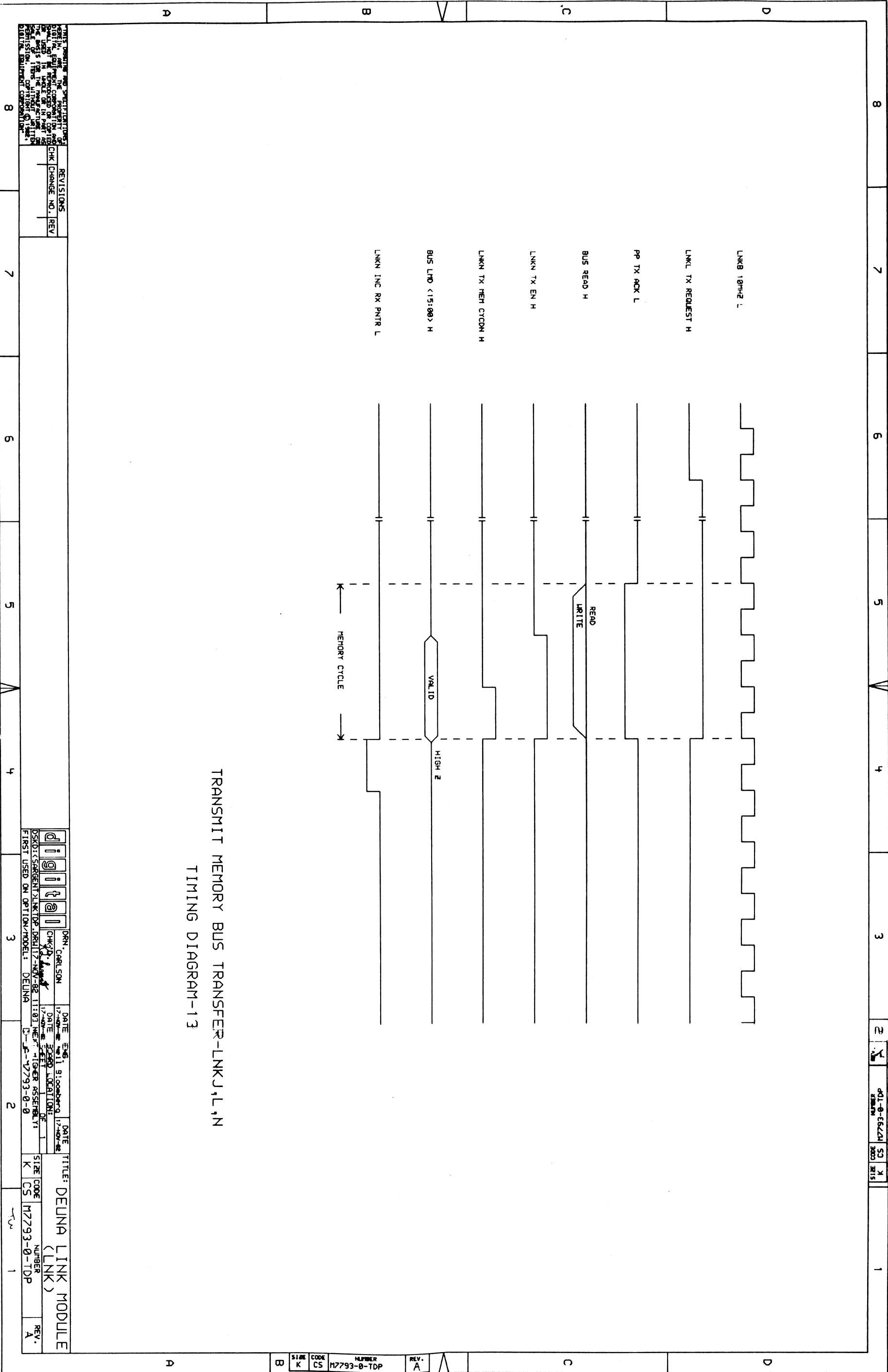
STATION ADDRESS RAM WRITE-LNK
TIMING DIAGRAM-12

PRINT USING THE SPECIFICATIONS OF THE EQUIPMENT. THE USER SHALL BE RESPONSIBLE FOR THE PROPER CONNECTION AND USE OF THE EQUIPMENT. THE USER SHALL BE RESPONSIBLE FOR THE PROPER CONNECTION AND USE OF THE EQUIPMENT. THE USER SHALL BE RESPONSIBLE FOR THE PROPER CONNECTION AND USE OF THE EQUIPMENT.

REV. NO.	REV. DATE	REV. DESCRIPTION
1		
2		
3		
4		
5		
6		
7		
8		

DRN. CARLSON	DATE 17-NOV-88	DATE 17-NOV-88	TITLE: DEUNA LINK MODULE
CHKD BY: [Signature]	DATE 17-NOV-88	DATE 17-NOV-88	(LNK)
DESIGNER: DEUNA	DATE 17-NOV-88	DATE 17-NOV-88	SIZE CODE K
FIRST USED ON OPTION/MODEL: DEUNA	DATE 17-NOV-88	DATE 17-NOV-88	CS H7793-0-TDN
	DATE 17-NOV-88	DATE 17-NOV-88	REV. A

8 7 6 5 4 3 2 1



TRANSMIT MEMORY BUS TRANSFER-LNKJ,L,N
TIMING DIAGRAM-13

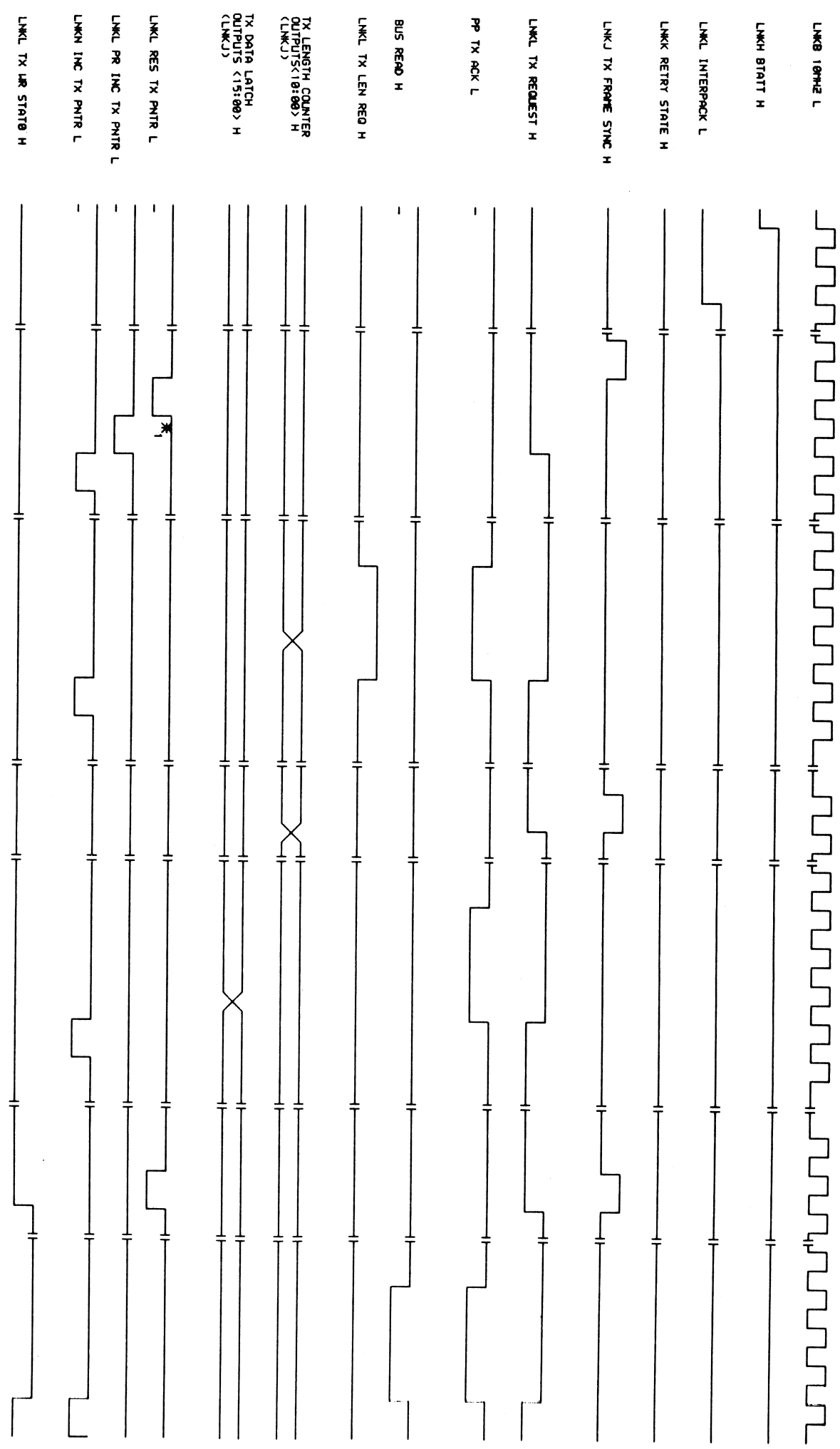
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FROM GENERAL ELECTRIC COMPANY.

REV. NO.	REVISIONS
1	INITIAL DESIGN
2	DESIGN CHANGES
3	DESIGN CHANGES
4	DESIGN CHANGES
5	DESIGN CHANGES
6	DESIGN CHANGES
7	DESIGN CHANGES
8	DESIGN CHANGES

REV. NO.	REVISIONS
1	INITIAL DESIGN
2	DESIGN CHANGES
3	DESIGN CHANGES
4	DESIGN CHANGES
5	DESIGN CHANGES
6	DESIGN CHANGES
7	DESIGN CHANGES
8	DESIGN CHANGES

DRN. CARLSON	DATE ENG. 11 91000000	DATE 17-NOV-82	TITLE: DEUNA LINK MODULE (LNK)
CHKD. [Signature]	DATE 3000 100000	DATE 17-NOV-82	SIZE CODE K
DESIGN: SARGENT & Lundy	MODEL: DEUNA	REV. A	NUMBER M7793-0-TDP
FIRST USED ON OPTION/MODEL:			

PREAMBLE DATA STATUS

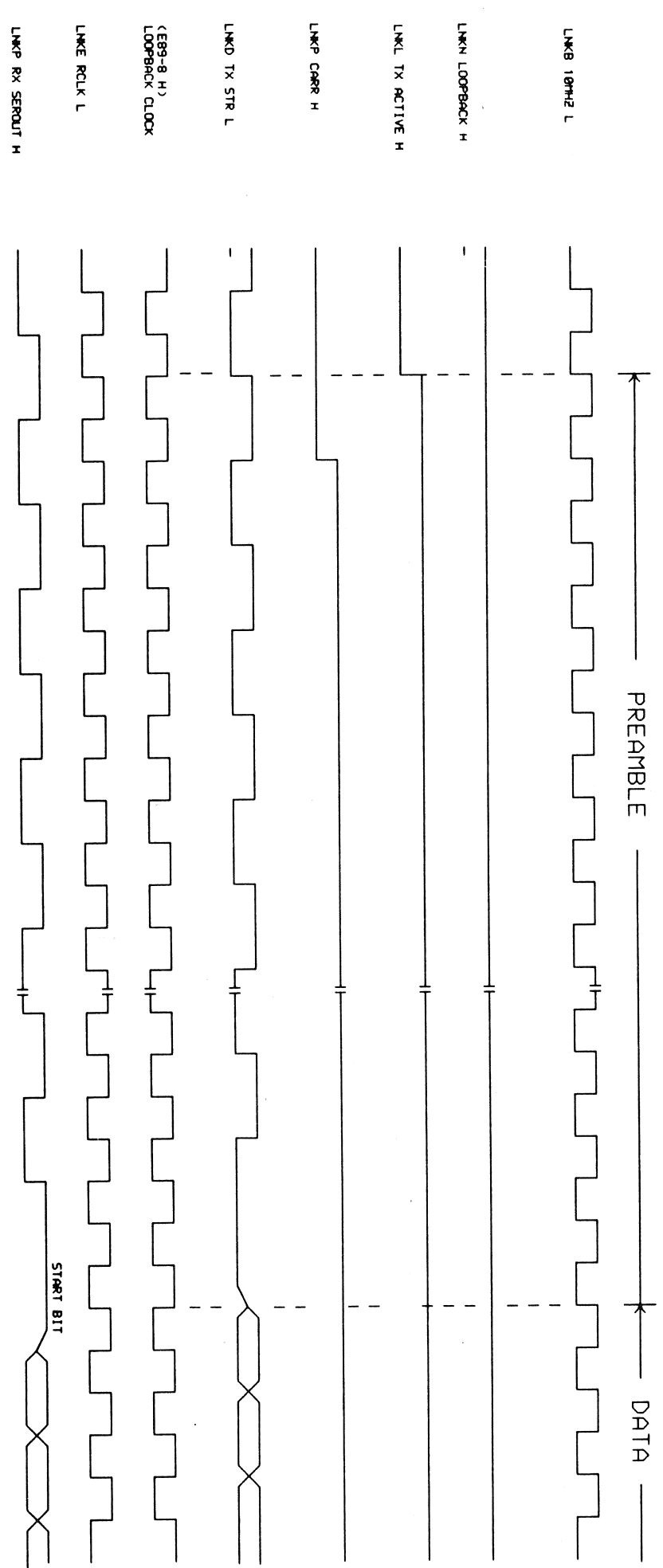


*1. LOADING OF THE BYTE COUNT REGISTER OCCURS DURING THE PREAMBLE 1 STATE.

TRANSMIT LINK MEMORY TRANSFER-LNKJ, LNKL, LNKI
TIMING DIAGRAM-14

REV. NO.		REV. NO.		REV. NO.		REV. NO.		REV. NO.	
8	7	6	5	4	3	2	1		
DATE		DATE		DATE		DATE		DATE	
17-NOV-82		17-NOV-82		17-NOV-82		17-NOV-82		17-NOV-82	
BY		BY		BY		BY		BY	
J. L. ...		J. L. ...		J. L. ...		J. L. ...		J. L. ...	
CHECKED		CHECKED		CHECKED		CHECKED		CHECKED	
BY		BY		BY		BY		BY	
J. L. ...		J. L. ...		J. L. ...		J. L. ...		J. L. ...	
DATE		DATE		DATE		DATE		DATE	
17-NOV-82		17-NOV-82		17-NOV-82		17-NOV-82		17-NOV-82	
BY		BY		BY		BY		BY	
J. L. ...		J. L. ...		J. L. ...		J. L. ...		J. L. ...	
DATE		DATE		DATE		DATE		DATE	
17-NOV-82		17-NOV-82		17-NOV-82		17-NOV-82		17-NOV-82	
BY		BY		BY		BY		BY	
J. L. ...		J. L. ...		J. L. ...		J. L. ...		J. L. ...	
DATE		DATE		DATE		DATE		DATE	
17-NOV-82		17-NOV-82		17-NOV-82		17-NOV-82		17-NOV-82	
BY		BY		BY		BY		BY	
J. L. ...		J. L. ...		J. L. ...		J. L. ...		J. L. ...	
DATE		DATE		DATE		DATE		DATE	
17-NOV-82		17-NOV-82		17-NOV-82		17-NOV-82		17-NOV-82	
BY		BY		BY		BY		BY	
J. L. ...		J. L. ...		J. L. ...		J. L. ...		J. L. ...	
DATE		DATE		DATE		DATE		DATE	
17-NOV-82		17-NOV-82		17-NOV-82		17-NOV-82		17-NOV-82	
BY		BY		BY		BY		BY	
J. L. ...		J. L. ...		J. L. ...		J. L. ...		J. L. ...	
DATE		DATE		DATE		DATE		DATE	
17-NOV-82		17-NOV-82		17-NOV-82		17-NOV-82		17-NOV-82	
BY		BY		BY		BY		BY	
J. L. ...		J. L. ...		J. L. ...		J. L. ...		J. L. ...	

DEUNA LINK MODULE (LNK) H7293-0-TDR



LOOPBACK LNKP, LNKL
TIMING DIAGRAM-15

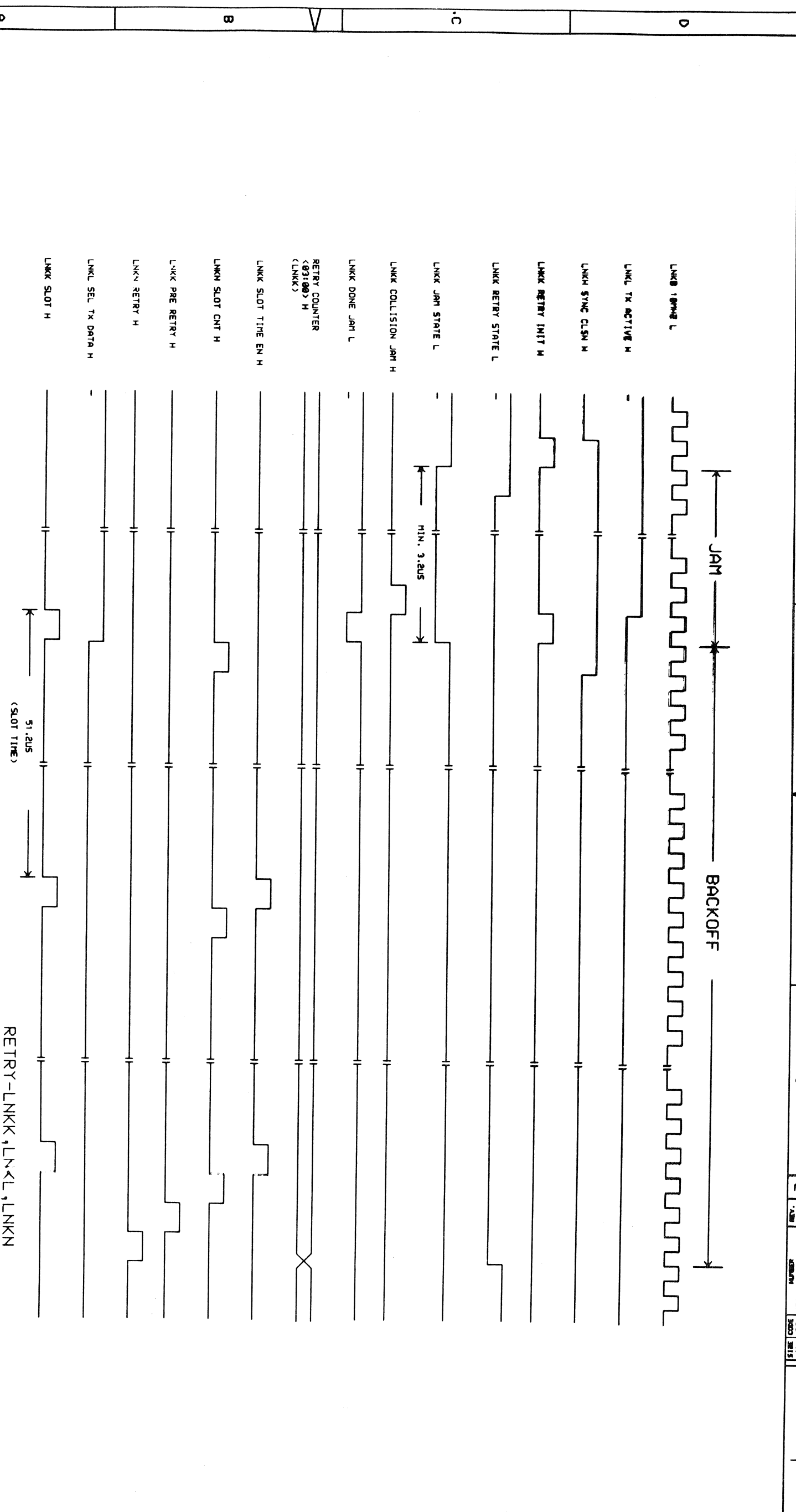
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OR MECHANICAL, INCLUDING
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ANY INFORMATION STORAGE AND
RETRIEVAL SYSTEM, WITHOUT
PERMISSION OF THE GOVERNMENT.

REV. NO.	CHK	CHANGE NO.	REV.

DATE	ENG.	NO.	DESCRIPTION
17-NOV-82	WILL BLOOMBERG	1	ISSUED FOR PRODUCTION
17-NOV-82	WILL BLOOMBERG	2	ISSUED FOR PRODUCTION
17-NOV-82	WILL BLOOMBERG	3	ISSUED FOR PRODUCTION
17-NOV-82	WILL BLOOMBERG	4	ISSUED FOR PRODUCTION
17-NOV-82	WILL BLOOMBERG	5	ISSUED FOR PRODUCTION
17-NOV-82	WILL BLOOMBERG	6	ISSUED FOR PRODUCTION
17-NOV-82	WILL BLOOMBERG	7	ISSUED FOR PRODUCTION
17-NOV-82	WILL BLOOMBERG	8	ISSUED FOR PRODUCTION

DRN: CARL SON	DATE: 17-NOV-82	ENG: WILL BLOOMBERG	NO: 1	DESCRIPTION: ISSUED FOR PRODUCTION
CHK: 2	DATE: 17-NOV-82	ENG: WILL BLOOMBERG	NO: 2	DESCRIPTION: ISSUED FOR PRODUCTION
CHK: 3	DATE: 17-NOV-82	ENG: WILL BLOOMBERG	NO: 3	DESCRIPTION: ISSUED FOR PRODUCTION
CHK: 4	DATE: 17-NOV-82	ENG: WILL BLOOMBERG	NO: 4	DESCRIPTION: ISSUED FOR PRODUCTION
CHK: 5	DATE: 17-NOV-82	ENG: WILL BLOOMBERG	NO: 5	DESCRIPTION: ISSUED FOR PRODUCTION
CHK: 6	DATE: 17-NOV-82	ENG: WILL BLOOMBERG	NO: 6	DESCRIPTION: ISSUED FOR PRODUCTION
CHK: 7	DATE: 17-NOV-82	ENG: WILL BLOOMBERG	NO: 7	DESCRIPTION: ISSUED FOR PRODUCTION
CHK: 8	DATE: 17-NOV-82	ENG: WILL BLOOMBERG	NO: 8	DESCRIPTION: ISSUED FOR PRODUCTION

TITLE: DEUNA LINK MODULE
(LNK)
NUMBER: M7793-0-TDS
REV: A



RETRY-LNKK, LNKL, LNKH
JAM AND BACKOFF
TIMING DIAGRAM-16

REVISIONS
CHK CHANGE NO. REV

DRN CARLSON
DATE 17-NOV-82

ENGR NORTON
DATE 17-NOV-82

CSK BOGARD
DATE 17-NOV-82

CSK DEUNA
DATE 17-NOV-82

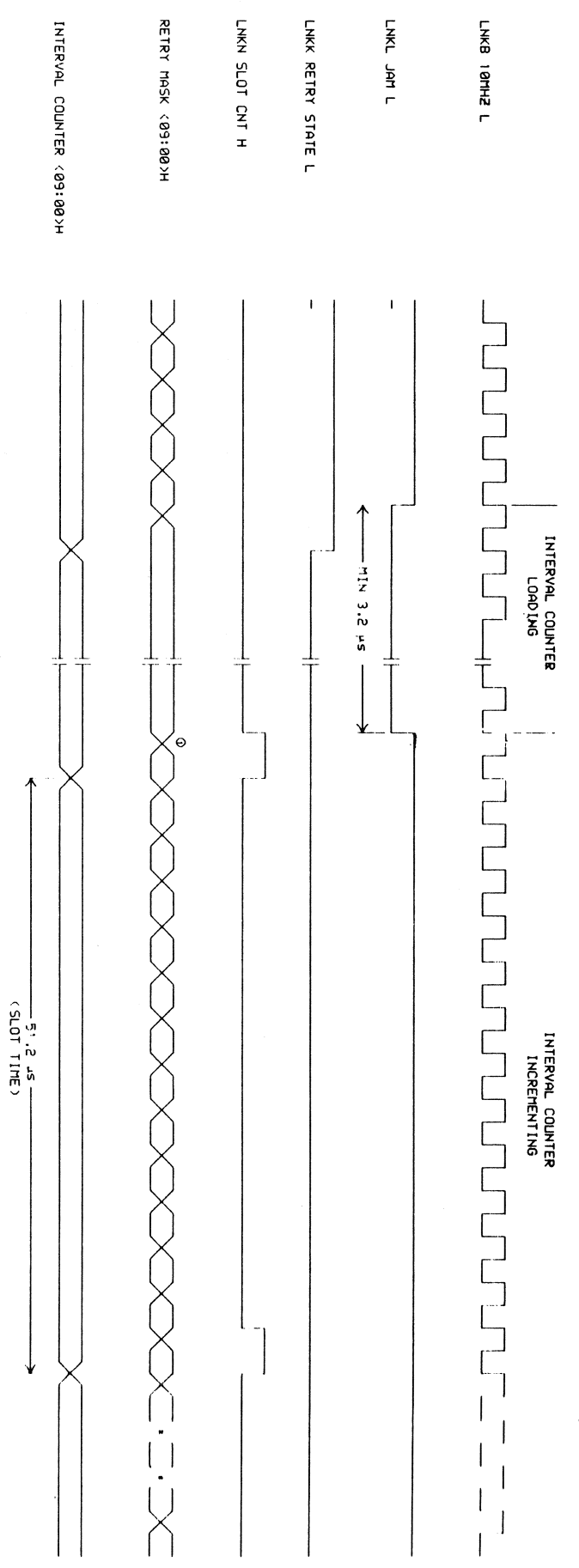
CSK DEUNA
DATE 17-NOV-82

CSK DEUNA
DATE 17-NOV-82

CSK DEUNA
DATE 17-NOV-82

CSK DEUNA
DATE 17-NOV-82

CSK DEUNA
DATE 17-NOV-82



③ RETRY MASK <09:00>H IS CLOCK BY LNK4 OSC L AND HENCE IS ASYNCHRONOUS TO 10MHz L.

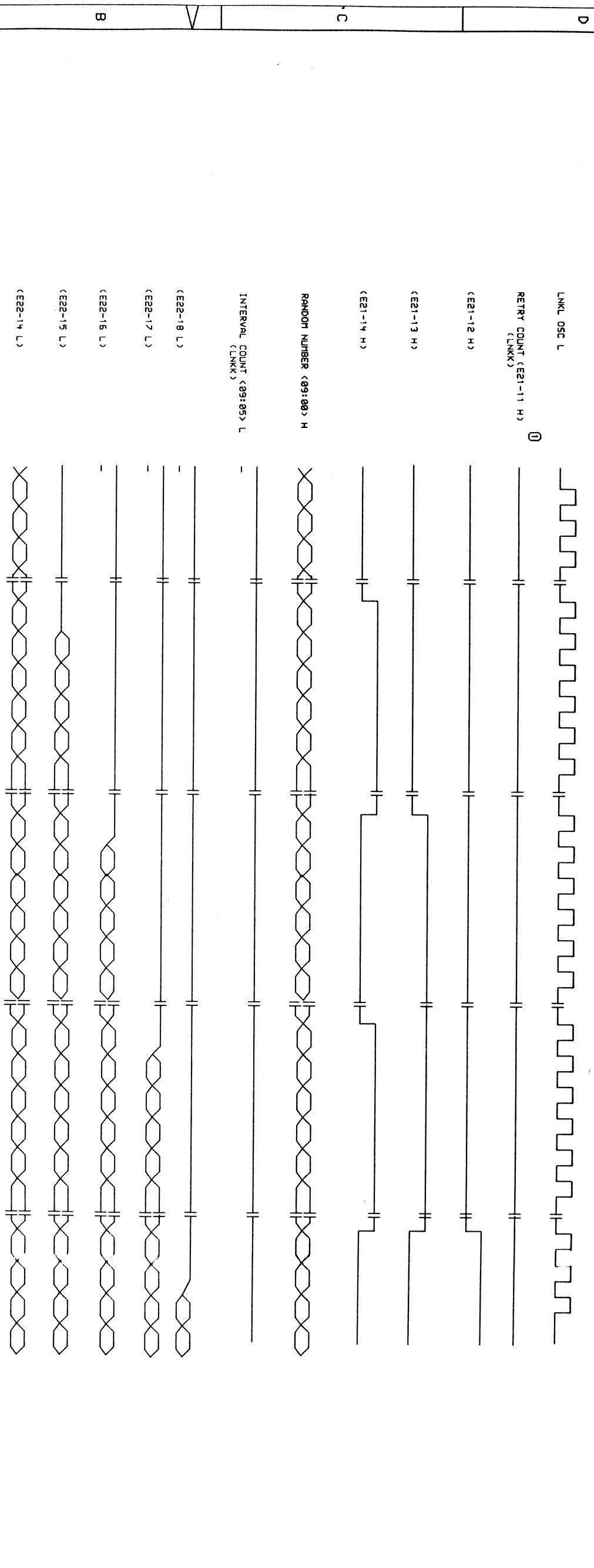
RETRY-LINK LNK₁
 LOADING OF INTERVAL COUNTER
 TIMING DIAGRAM-17

REVISIONS
 CK- CHANGE NC. REV

DATE TITLE: DEUNA LINK MODULE (LNK)
 SIZE CODE K CS M7793-0-TDU

DRN: PAUL HERBERT
 DATE: 12-NOV-82
 CHK: PAUL HERBERT
 DATE: 12-NOV-82
 DISK: SARGENTLNK1.DU (ORBIT) NOV-82 11:05 AM
 FIRST USED ON OPTION/MODEL: DEUNA

REV. A



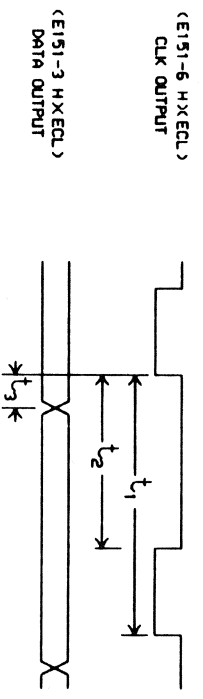
NOTE 1. THIS COUNT IS INCREMENTED AT THE DEASSERTION OF RNKK RETRY STATE L.

RETRY-LNKK, LNKL
RANDOM NUMBER MASK OPENING
TIMING DIAGRAM-18

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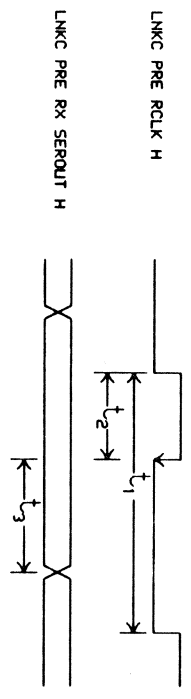
REVOLUTIONS	
CHK	CHANGE NO. REV

DRN. C. GILROUARD	DATE 11-20-82	TITLE: DEUNA LINK MODULE (LNK)
CHKD. A. ...	DATE 11-20-82	SIZE CODE K CS
DSKD. SARGENT	DATE 11-20-82	NUMBER M7793-0-TDV
FIRST USED ON OPTION/MODEL: DEUNA	DATE 11-20-82	REV. A



PARAMETER	MIN	TYPE	MAX
t_1	80	100	120
t_2	26	50	70
t_3		2	

MANCHESTER DECODER -



PARAMETER	MIN	TYPE	MAX
t_1	80	100	120
t_2		30	
t_3		50	

CLOCK SHAPER -

RECEIVE CLOCK, DATA OUTPUTS--LNKC
TIMING DIAGRAMS-19

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REV.	NO.	CHG	DESCRIPTION
1	1		INITIAL ISSUE

DATE: 11-20-82
ENGINEER: William Bloomberg
CHECKED BY: [Signature]
DESIGNED BY: [Signature]
DRAWN BY: [Signature]
FIRST USED ON OPTION/MODEL: DEUNA

TITLE: DEUNA LINK MODULE (LNK)

SIZE: K
CODE: CS
NUMBER: M7793-0-TDM

REV. A

PART NUMBER: 23-035K4-00
LOCATION: E22
DEVICE TYPE: PAL16R6
PIN NUMBER = SYMBOL TABLE:

1 = CLK	8 = SEL2 H	15 = RND1 L
2 = RAN3 H	9 = SEL3 H	16 = RND2 L
3 = RAN2 H	10 = GND	17 = RND3 L
4 = RAN1 H	11 = EN	18 = RND4 L
5 = RAN0 H	12 = Load L	19 = RAN4 H
6 = SEL0 H	13 = ONE L	20 = VCC
7 = SEL1 H	14 = RND0 L	

NOTES: RNNS1.PAL - (LNKK)
This program implements the random number mask function
specified in the Ethernet spec.

PAL PINS: 1 0 1 0 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1
 2 3 1 4 5 6 7 8 9 12 13 14 15 16 17 18 19

OUTPIN 18 X X X X X X X H L X X X X X X H H SEL2 H RAN4 H RND0 L
 X X X X X X X H L X X X X X X H H RAN4 H RND0 L
 X X X X X X X H L X X X X X X H H RAN4 H RND0 L
 X X X X X X X H L X X X X X X H H RAN4 H RND0 L

OUTPIN 17 H X X X X X X H L X X X X X X SEL3 H RAN3 H RND0 L
 H X X X X X X H L X X X X X X SEL2 H RAN3 H RND0 L
 X X X X X X X H L X X X X X X SEL1 H RAN3 H RND0 L
 X X X X X X X H L X X X X X X RND3 L RND0 L

OUTPIN 16 X H X X X H X H L X X X X X X SEL1 H RAN2 H RND0 L
 X H X X X H X H L X X X X X X SEL2 H RAN2 H RND0 L
 X H X X X H X H L X X X X X X SEL3 H RAN2 H RND0 L
 X X X X X X X H L X X X X X X RND2 L RND0 L

OUTPIN 15 X X X X X X X H L X X X X X X SEL0 H RAN1 H RND0 L
 X X X X X X X H L X X X X X X SEL1 H RAN1 H RND0 L
 X X X X X X X H L X X X X X X SEL2 H RAN1 H RND0 L
 X X X X X X X H L X X X X X X SEL3 H RAN1 H RND0 L

OUTPIN 14 X X X X X X X H L X X X X X X RAN2 H RND0 L
 X X X X X X X H L X X X X X X RND0 L
 X X X X X X X H L X X X X X X RND0 L
 X X X X X X X H L X X X X X X RND0 L

OUTPIN 13 X X X X X H L L X X X X X X X SEL3 H SEL2 H SEL1 H SEL0 H

OUTPIN 12

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REVISIONS		CHK	CHANGE NO.	REV
7				
6				
5				
4				
3				
2				
1				

DRAWN BY *[Signature]* DATE 1988-11-13

DESIGNER: J. R. [Signature] DATE 1988-11-13

DESCRIPTION: DEUNA PAL LISTINGS

DRAWN BY: [Signature] DATE: 1988-11-13

CHECKED BY: [Signature] DATE: 1988-11-13

DESIGNED BY: [Signature] DATE: 1988-11-13

SIZE CODE: CS K

REVISION: A

8		7		6		5		4		3		2		1																																														
<p>PART NUMBER: 23-0229K5-00 LOCATION: E32 DEVICE TYPE: PAL16R8 PIN NUMBER = SYMBOL TABLE:</p> <table border="0"> <tr><td>1= CLK</td><td>8= Inter Pack L</td><td>15= No Carr Sta L</td></tr> <tr><td>2= DN H</td><td>9= Adv PTR L</td><td>16= Rx Active L</td></tr> <tr><td>3= Carr H</td><td>10= GND</td><td>17= Bad Pack Sta L</td></tr> <tr><td>4= Runt Or NMatch H</td><td>11= EN</td><td>18= Pack Ok Sta L</td></tr> <tr><td>5= NC H</td><td>12= Rx End Sta L</td><td>19= Miss L</td></tr> <tr><td>6= Free Rx Buff H</td><td>13= Res PTR L</td><td>20= VCC</td></tr> <tr><td>7= NC H</td><td>14= Inc PTR L</td><td></td></tr> </table> <p>NOTE: RASTI.PAL - (LNKH) This program is the memory contents of the PAL logic used to form the Receive State machine. This PAL is used to receive the Remote Data and check the CRC. If there is an error the State machine will jump to either the Miss or Bad Pack State. A packet is received without error if the program will sequence to the write status routine in RASTI2.PAL.</p> <p>PAL PINS: 101010101010111111111111 12131415161718191213141516171819</p> <p>OUTPUT 19 H X X X X X X X X X X X X X L X X L Miss L R Active L DN H</p> <p>OUTPUT 18 H L L X X X X X X X X X X X X X X X H Rx Active L Carr H Runt Or NMatch Miss L DN H</p> <p>OUTPUT 17 H L H X X X X X X X X X X X X X X X X Carr H Runt Or NMatch DN H</p> <p>OUTPUT 16 H H X No Carr Sta L DN H Carr H Bad Pack Sta L Carr DN Sta L Carr DN</p> <p>OUTPUT 15 H L X No Carr Sta L Carr H DN H Rx Active L Carr DN</p> <p>OUTPUT 14 H X Res PTR L DN H</p> <p>OUTPUT 13 H H X No Carr Sta L DN H Carr H</p> <p>OUTPUT 12 L X Adv PTR L DN H Runt Or NMatch Miss L DN H Bad Pack Sta L DN H Rx Active L Carr DN Sta L Carr H DN H</p>																1= CLK	8= Inter Pack L	15= No Carr Sta L	2= DN H	9= Adv PTR L	16= Rx Active L	3= Carr H	10= GND	17= Bad Pack Sta L	4= Runt Or NMatch H	11= EN	18= Pack Ok Sta L	5= NC H	12= Rx End Sta L	19= Miss L	6= Free Rx Buff H	13= Res PTR L	20= VCC	7= NC H	14= Inc PTR L																									
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2= DN H	9= Adv PTR L	16= Rx Active L																																																										
3= Carr H	10= GND	17= Bad Pack Sta L																																																										
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7= NC H	14= Inc PTR L																																																											
<table border="1"> <tr> <th>REV.</th> <th>NO.</th> <th>DATE</th> <th>BY</th> <th>DESCRIPTION</th> </tr> <tr> <td></td> <td>1</td> <td>08-NOV-82</td> <td>Ken Sergeant</td> <td>DESIGN</td> </tr> <tr> <td></td> <td>2</td> <td>16-DEC-82</td> <td>Ken Sergeant</td> <td>DESIGN</td> </tr> <tr> <td></td> <td>3</td> <td>08-NOV-82</td> <td>Ken Sergeant</td> <td>DESIGN</td> </tr> <tr> <td></td> <td>4</td> <td>16-DEC-82</td> <td>Ken Sergeant</td> <td>DESIGN</td> </tr> <tr> <td></td> <td>5</td> <td>08-NOV-82</td> <td>Ken Sergeant</td> <td>DESIGN</td> </tr> <tr> <td></td> <td>6</td> <td>16-DEC-82</td> <td>Ken Sergeant</td> <td>DESIGN</td> </tr> <tr> <td></td> <td>7</td> <td>08-NOV-82</td> <td>Ken Sergeant</td> <td>DESIGN</td> </tr> <tr> <td></td> <td>8</td> <td>16-DEC-82</td> <td>Ken Sergeant</td> <td>DESIGN</td> </tr> </table> <p>DESIGNER: Ken Sergeant CHECKED BY: Ken Sergeant DATE: 08-NOV-82</p> <p>DESIGNER: Ken Sergeant CHECKED BY: Ken Sergeant DATE: 16-DEC-82</p> <p>DESIGNER: Ken Sergeant CHECKED BY: Ken Sergeant DATE: 08-NOV-82</p> <p>DESIGNER: Ken Sergeant CHECKED BY: Ken Sergeant DATE: 16-DEC-82</p> <p>DESIGNER: Ken Sergeant CHECKED BY: Ken Sergeant DATE: 08-NOV-82</p> <p>DESIGNER: Ken Sergeant CHECKED BY: Ken Sergeant DATE: 16-DEC-82</p> <p>DESIGNER: Ken Sergeant CHECKED BY: Ken Sergeant DATE: 08-NOV-82</p> <p>DESIGNER: Ken Sergeant CHECKED BY: Ken Sergeant DATE: 16-DEC-82</p>																REV.	NO.	DATE	BY	DESCRIPTION		1	08-NOV-82	Ken Sergeant	DESIGN		2	16-DEC-82	Ken Sergeant	DESIGN		3	08-NOV-82	Ken Sergeant	DESIGN		4	16-DEC-82	Ken Sergeant	DESIGN		5	08-NOV-82	Ken Sergeant	DESIGN		6	16-DEC-82	Ken Sergeant	DESIGN		7	08-NOV-82	Ken Sergeant	DESIGN		8	16-DEC-82	Ken Sergeant	DESIGN
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<p>REVISIONS</p> <table border="1"> <tr> <th>REV.</th> <th>NO.</th> <th>DATE</th> <th>BY</th> <th>DESCRIPTION</th> </tr> <tr> <td></td> <td>1</td> <td>08-NOV-82</td> <td>Ken Sergeant</td> <td>DESIGN</td> </tr> <tr> <td></td> <td>2</td> <td>16-DEC-82</td> <td>Ken Sergeant</td> <td>DESIGN</td> </tr> <tr> <td></td> <td>3</td> <td>08-NOV-82</td> <td>Ken Sergeant</td> <td>DESIGN</td> </tr> <tr> <td></td> <td>4</td> <td>16-DEC-82</td> <td>Ken Sergeant</td> <td>DESIGN</td> </tr> <tr> <td></td> <td>5</td> <td>08-NOV-82</td> <td>Ken Sergeant</td> <td>DESIGN</td> </tr> <tr> <td></td> <td>6</td> <td>16-DEC-82</td> <td>Ken Sergeant</td> <td>DESIGN</td> </tr> <tr> <td></td> <td>7</td> <td>08-NOV-82</td> <td>Ken Sergeant</td> <td>DESIGN</td> </tr> <tr> <td></td> <td>8</td> <td>16-DEC-82</td> <td>Ken Sergeant</td> <td>DESIGN</td> </tr> </table>																REV.	NO.	DATE	BY	DESCRIPTION		1	08-NOV-82	Ken Sergeant	DESIGN		2	16-DEC-82	Ken Sergeant	DESIGN		3	08-NOV-82	Ken Sergeant	DESIGN		4	16-DEC-82	Ken Sergeant	DESIGN		5	08-NOV-82	Ken Sergeant	DESIGN		6	16-DEC-82	Ken Sergeant	DESIGN		7	08-NOV-82	Ken Sergeant	DESIGN		8	16-DEC-82	Ken Sergeant	DESIGN
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	7	08-NOV-82	Ken Sergeant	DESIGN																																																								
	8	16-DEC-82	Ken Sergeant	DESIGN																																																								
<p>DEUNA LINK MODULE PAL LISTINGS NUMBER 1</p>																																																												

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REV. A
NUMBER 4776644
CS K

A

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REV. A
NUMBER 4776644
CS K

A

PART NUMBER: 23-032K4-00
LOCATION: E102, E103

DEVICE TYPE: PAL16R6
PIN NUMBER = SYMBOL TABLE:

- 1 = CLK
- 2 = STR ADDR0 H
- 3 = STR ADDR1 H
- 4 = STR ADDR2 H
- 5 = STR ADDR3 H
- 6 = STR ADDR4 H
- 7 = STR ADDR5 H
- 8 = Rx In H
- 9 = Clr L
- 10 = GND
- 11 = EN
- 12 = CRY Out L
- 13 = Match5 L
- 14 = Match4 L
- 15 = Match3 L
- 16 = Match2 L
- 17 = Match1 L
- 18 = Match0 L
- 19 = CRY In H
- 20 = VCC

NOTES: STHT1.PAL - (LNKF)
This program is the memory contents of the PAL logic used to form the Station Address Detection STR ADDR Logic.

PAL PINS: 101010101010111111111111111111
121314151617181912131415161718191

OUTPIN 19

```

L X X X X X L X X X X X X L X X X X X X L X X X X X X L X X X X X X L X X X X X X L X X X X X X
H X X X X X H X X X X X H X X X X X H X X X X X H X X X X X H X X X X X H X X X X X H X X X X X
X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X
X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X
  
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OUTPIN 18

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L X X X X X L X X X X X X L X X X X X X L X X X X X X L X X X X X X L X X X X X X L X X X X X X
X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X
X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X
  
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OUTPIN 17

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X X X X X X L X X X X X X L X X X X X X L X X X X X X L X X X X X X L X X X X X X L X X X X X X
X X X X X X H X X X X X H X X X X X H X X X X X H X X X X X H X X X X X H X X X X X H X X X X X
X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X
  
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OUTPIN 16

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X X X X X X L X X X X X X L X X X X X X L X X X X X X L X X X X X X L X X X X X X L X X X X X X
X X X X X X H X X X X X H X X X X X H X X X X X H X X X X X H X X X X X H X X X X X H X X X X X
X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X
  
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OUTPIN 15

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X X X X X X L X X X X X X L X X X X X X L X X X X X X L X X X X X X L X X X X X X L X X X X X X
X X X X X X H X X X X X H X X X X X H X X X X X H X X X X X H X X X X X H X X X X X H X X X X X
X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X
  
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OUTPIN 14

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X X X X X X L X X X X X X L X X X X X X L X X X X X X L X X X X X X L X X X X X X L X X X X X X
X X X X X X H X X X X X H X X X X X H X X X X X H X X X X X H X X X X X H X X X X X H X X X X X
X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X
  
```

OUTPIN 13

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X X X X X X L X X X X X X L X X X X X X L X X X X X X L X X X X X X L X X X X X X L X X X X X X
X X X X X X H X X X X X H X X X X X H X X X X X H X X X X X H X X X X X H X X X X X H X X X X X
X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X
  
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OUTPIN 12

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X X X X X X L X X X X X X L X X X X X X L X X X X X X L X X X X X X L X X X X X X L X X X X X X
X X X X X X H X X X X X H X X X X X H X X X X X H X X X X X H X X X X X H X X X X X H X X X X X
X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X
  
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REV.	CHANGE NO.	REV
1		1

DATE: 18-NOV-82
BY: [Signature]

DESIGNED BY: [Signature]
 CHECKED BY: [Signature]
 DRAWN BY: [Signature]

DATE: 18-NOV-82
 TIME: 13:59
 INDEX NUMBER: 17793-0-11K

TITLE: DEUNA LINK MODULE
 PAL LISTINGS

STATE CODE: K
 CS: 17793-0-11K

REV. A

REV. A

PART NUMBER: 23-0256K5-00
 LOCATION: E51
 DEVICE TYPE: PAL16R8
 PIN NUMBER = SYMBOL TABLE:
 1 = CLK
 2 = Data State L
 3 = DTCR H
 4 = RTRV H
 5 = ON H
 6 = Tx Frame H
 7 = Cnt Done H
 8 = CLSN H
 9 = MEM CYCDN H
 10 = GND
 11 = EN
 12 = CRC1 State L
 13 = CRC2 State L
 14 = RES PTR L
 15 = Tx LR Stati L
 16 = Tx LR Stati L
 17 = Sel Tx CRC L
 18 = Done L
 19 = Stat Req L
 20 = VCC

NOTES: TXST2.PAL - (LNKL)
 This program is the memory contents of the PAL logic used to form the transmit state machine. This PAL is used to transmit the CRC at the end of the packet. If a CLSNH should occur all states will be cleared. At the end of the CRC or if DTCR is valid at the end of the data field the PAL will then write status to the Link Memory buffer in the PORT.

PAL PINS: [2]1[4]5[6]7[8]9[12]13[14]5[6]7[8]9[1]

OUTPIN 19 X X X H X X X L X X X L X X X X Tx LR Stati L MEM CYCDN H ON H
 X X X H X X X L X X X L X X X X Tx LR Stati L MEM CYCDN H ON H
 X X X H X X X L X X X L X X X X Stat Req L MEM CYCDN H ON H

OUTPIN 18 X X X H X X X X X X X X X X Tx LR Stati L ON H MEM CYCDN H

OUTPIN 17 X X X H X X L X X X X X X X X Cnt Done H CLSN H ON H
 X X X H X X L X X X X X X X X Sel Tx CRC L CLSN H RES PTR L ON H

OUTPIN 16 X X X H X X X X X X X L X X X X Tx LR Stati L MEM CYCDN H ON H
 X X X H X X X X X X X L X X X X Tx LR Stati L MEM CYCDN H ON H

OUTPIN 15 X X X H X X X X X X L X X X X X Tx LR Stati L MEM CYCDN H ON H
 X X X H X X X X X X L X X X X X RES PTR L ON H
 X X X H X X X X X X L X X X X X MEM CYCDN H ON H

OUTPIN 14 X X X H X X L X X X X X X X X CRC2 State L Tx Frame H CLSN H ON H
 L H X H X X X X X X X X X X Data State L Cnt Done H ON H DTCR H
 X X H H X X X X X X X X X X RTRV H ON H

OUTPIN 13 X L X H H X L X X X X X X X X CRC1 State L Tx Frame H CLSN H ON H DTCR H
 X L X H L X L X X L H X X X X X CRC2 State L Tx Frame H ON H RES PTR L CLSN H DTCR H

OUTPIN 12 L L X H X H L X X X X X X X X Data State L Cnt Done H ON H CLSN H DTCR H
 X L X H X X L X L X X X X X X X X CRC1 State L Cnt Done H ON H DTCR H

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REV. A	DATE: 08-NOV-82	DESIGNED BY: Ken Sargent	DATE: 08-NOV-82
REV. A	DATE: 08-NOV-82	DESIGNED BY: Ken Sargent	DATE: 08-NOV-82

SIZE: K CS M7793-0-TTM

